Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

WATER SUPPLY OUTLOOK
and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS
for
OREGON

UNITED STATES DEPARTMENT of AGRICULTURE···SOIL CONSERVATION SERVICE

and

OREGON STATE UNIVERSITY

and

STATE ENGINEER of OREGON

Data included in this report were obtained by the agencies named above in cooperation with other Federal, State and private organizations.

AS OF
JAN. 1, 1966

UNITED STATES DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE

To Recipients of Water Supply Outlook Reports:

Most of the usable water in western states originates as mountain snowfall This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season as they affect runoff will add to be an effective average. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states There are about 1400 snow courses in Western United States and in the Columbia Basin in British Columbia. In the near future, it is anticipated that automatic snow water equivalent sensing devices along with radio telemetry will provide a continuous record of snow water equivalent at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

Listed below are water supply outlook reports based on Federal-State-Private Cooperative snow surveys. Those published by the Soil Conservation Service may be obtained from Soil Conservation Service, Room 507, Federal Building, 701 N. W. Glisan, Portland, Oregon 97209.

PUBLISHED BY SOIL CONSERVATION SERVICE

REPORTS	ISSUED	LOCATION	COOPERATING WITH
RIVER BASINS			
WESTERN UNITED STATES	MONTHLY (FEB.-MAY)	PORTLAND, OREGON	ALL COOPERATORS
BASIC DATA SUMMARY	OCTOBER 1	PORTLAND, OREGON	ALL COOPERATORS
STATES			
ALASKA	MONTHLY (MAR.-MAY)	PALMER, ALASKA	ALASKA S.C.D.
ARIZONA	SEMI-MONTHLY (JAN.15 - APR.1)	PHOENIX, ARIZONA	SALT R. VALLEY WATER USERS ASSOC. ARIZ. AGR. EXP. STATION
COLORADO AND NEW MEXICO	MONTHLY (FEB.-MAY)	FORT COLLINS, COLORADO	COLO. STATE UNIVERSITY COLO. STATE ENGINEER N. MEX. STATE ENGINEER
IDAHO	MONTHLY (JAN.-JUNE)	BOISE, IDAHO	IDAHO STATE RECLAMATION ENGINEER
MONTANA	MONTHLY (JAN.-JUNE)	BOZEMAN, MONTANA	MONT. AGR. EXP. STATION
NEVADA	MONTHLY (JAN.-MAY)	RENO, NEVADA	NEVADA DEPT. OF CONSERVATION AND NATURAL RESOURCES - DIVISION OF WATER RESOURCES
OREGON	MONTHLY (JAN.-JUNE)	PORTLAND, OREGON	OREG. STATE UNIVERSITY OREGON STATE ENGINEER
UTAH	MONTHLY (JAN.-JUNE)	SALT LAKE CITY, UTAH	UTAH STATE ENGINEER
WASHINGTON	MONTHLY (FEB.-JUNE)	SPOKANE, WASHINGTON	WN. STATE DEPT. OF CONSERVATION
WYOMING	MONTHLY (FEB.-JUNE)	CASPER, WYOMING	WYOMING STATE ENGINEER

PUBLISHED BY OTHER AGENCIES

REPORTS	ISSUED	AGENCY
BRITISH COLUMBIA	MONTHLY (FEB.-JUNE)	WATER RESOURCES SERVICE, DEPT. OF LANDS, FOREST AND WATER RESOURCES, PARLIAMENT BLDG., VICTORIA, B.C., CANADA
CALIFORNIA	MONTHLY (FEB.-MAY)	CALIF. DEPT. OF WATER RESOURCES, P.O. BOX 388, SACRAMENTO, CALIF.

USDA-SCS-PORTLAND OREG 1965

WATER SUPPLY OUTLOOK
and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS
for
OREGON

ISSUED

JANUARY 8, 1966

Report prepared by

W. T. FROST, Snow Survey Supervisor

and

BOB L. WHALEY, Assistant Snow Survey Supervisor

SOIL CONSERVATION SERVICE
1218 S.W. WASHINGTON ST.
PORTLAND, OREGON 97205

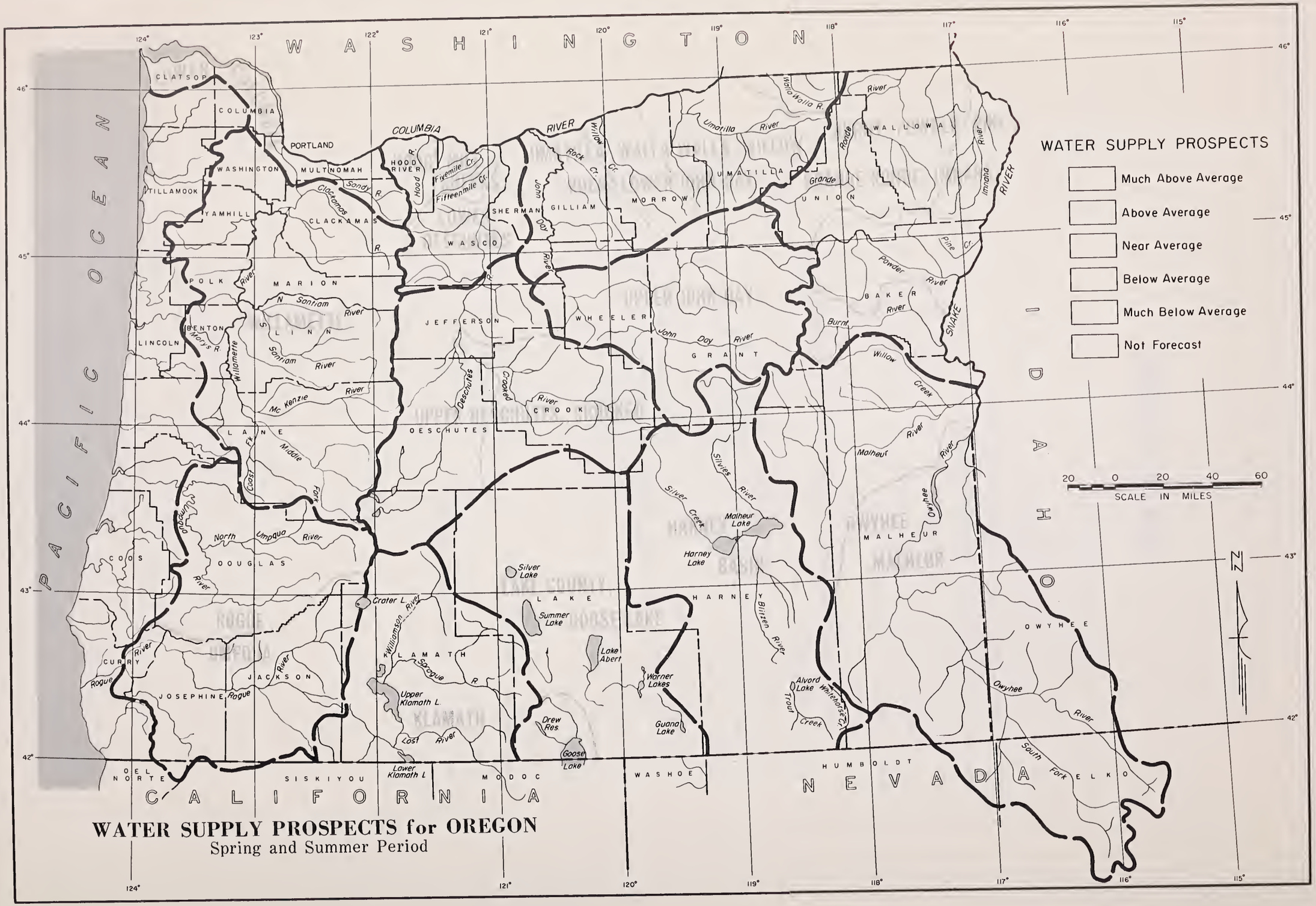
Issued by

A. J. WEBBER
STATE CONSERVATIONIST
SOIL CONSERVATION SERVICE

WILBER COONEY
ACTING DIRECTOR
OREGON AGRICULTURAL
EXPERIMENT STATION

CHRIS L. WHEELER
STATE ENGINEER
STATE OF OREGON

TABLE OF CONTENTS



WATER SUPPLY PROSPECTS for OREGON

Spring and Summer Period

WATER SUPPLY OUTLOOK for OREGON

JANUARY 1, 1966

Now that immediate flood threats seem to have lessened, most Oregon water users can be real happy with the heavy storm situation which has prevailed since the day after Christmas. The excessive rain and snow have combined to boost the mountain snowpacks considerably and, thereby, raise the statewide water outlook from fair to good for next spring and summer. Stored water supplies are excellent and the moisture in the soil mantle under the snowpack is about average.

SNOW COVER

Mountain snowpacks were far below average at the end of December but increased rapidly toward normal with recent heavy storms. Pre-January snow surveys indicated snow was about half of the usual January 1 amount in Harney Basin, the Owyhee, Malheur, Burnt, Powder, Grande Ronde, Walla Walla, Umatilla, John Day and the Wasco-Hood River county areas. Other stream basins had a snowpack ranging from 70 percent average up to 90 percent on the Willamette. Lake County was alone in having a 100 percent snow cover. None of the snow surveys revealed a snow pack as heavy as last year on this date.

Snow at low elevations (below 4,000) in the Coast Range and on the Cascades west slope is now much deeper than average and can contribute heavily to streamflow if heavy rains and warm temperatures should occur continuously for several days.

SOIL MOISTURE

Moisture in the soil mantle under the mountain snows is about 60 to 70 percent of capacity in most watersheds and is 75 to 80 percent capacity on the Malheur and Owyhee drainages. There is a moderate amount of frost in the soil in most eastern Oregon areas.

RESERVOIR STORAGE

Water stored in 25 Oregon reservoirs used primarily for irrigation totals 135 percent of the 15-year (1948-62) average and 79 percent of last year at this date.

Water stored in 28 out of 33 reservoirs is less than last year at this date but is greater than average in all but 4 cases. Christmas floods a year ago had filled many reservoirs at this date and quite a few were spilling.

STREAMFLOW

Flow of Oregon streams next spring and summer is expected to range from near average to above average if snow continues to accumulate in near normal amounts during the balance of the winter.

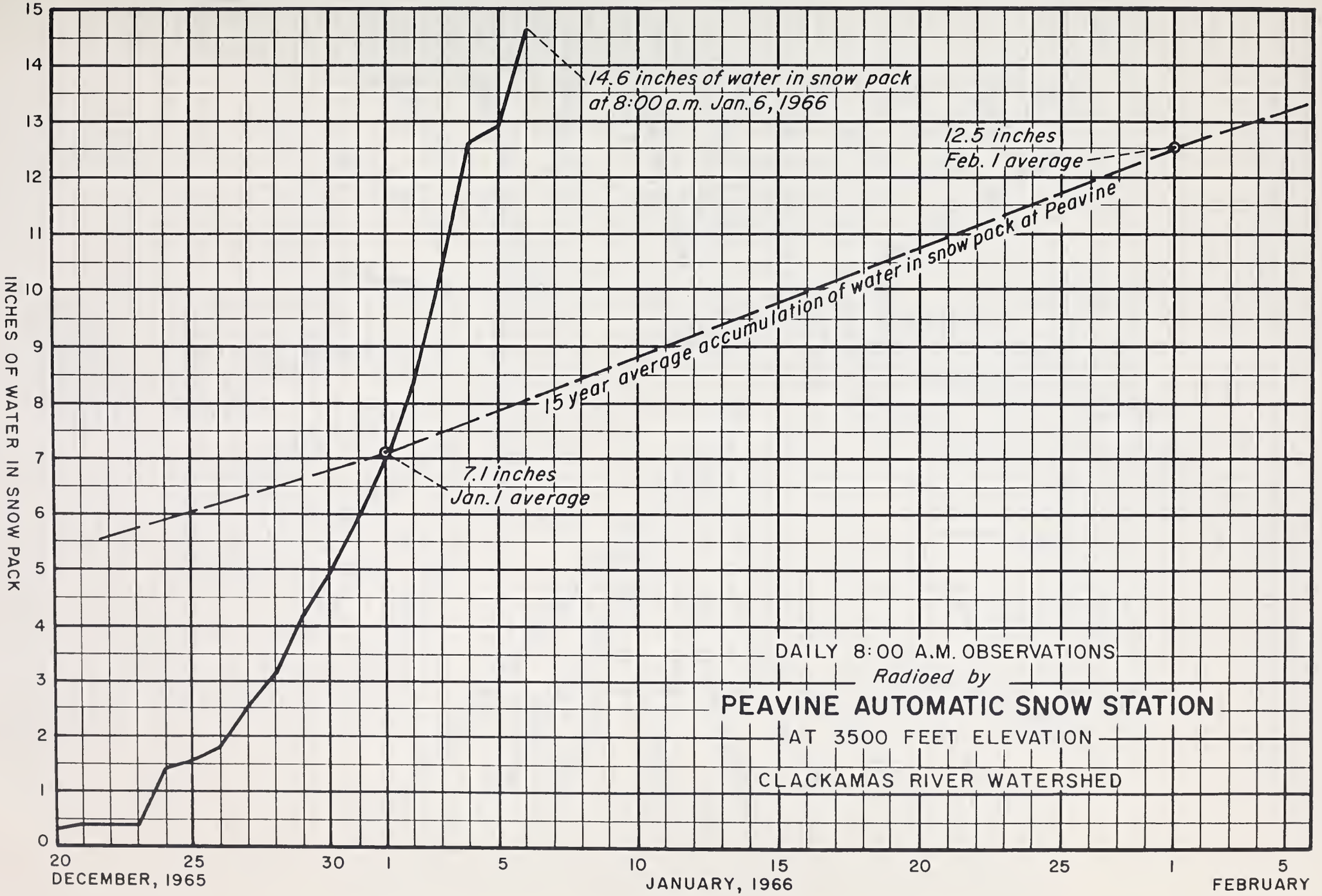
continued on next page - -

continued --

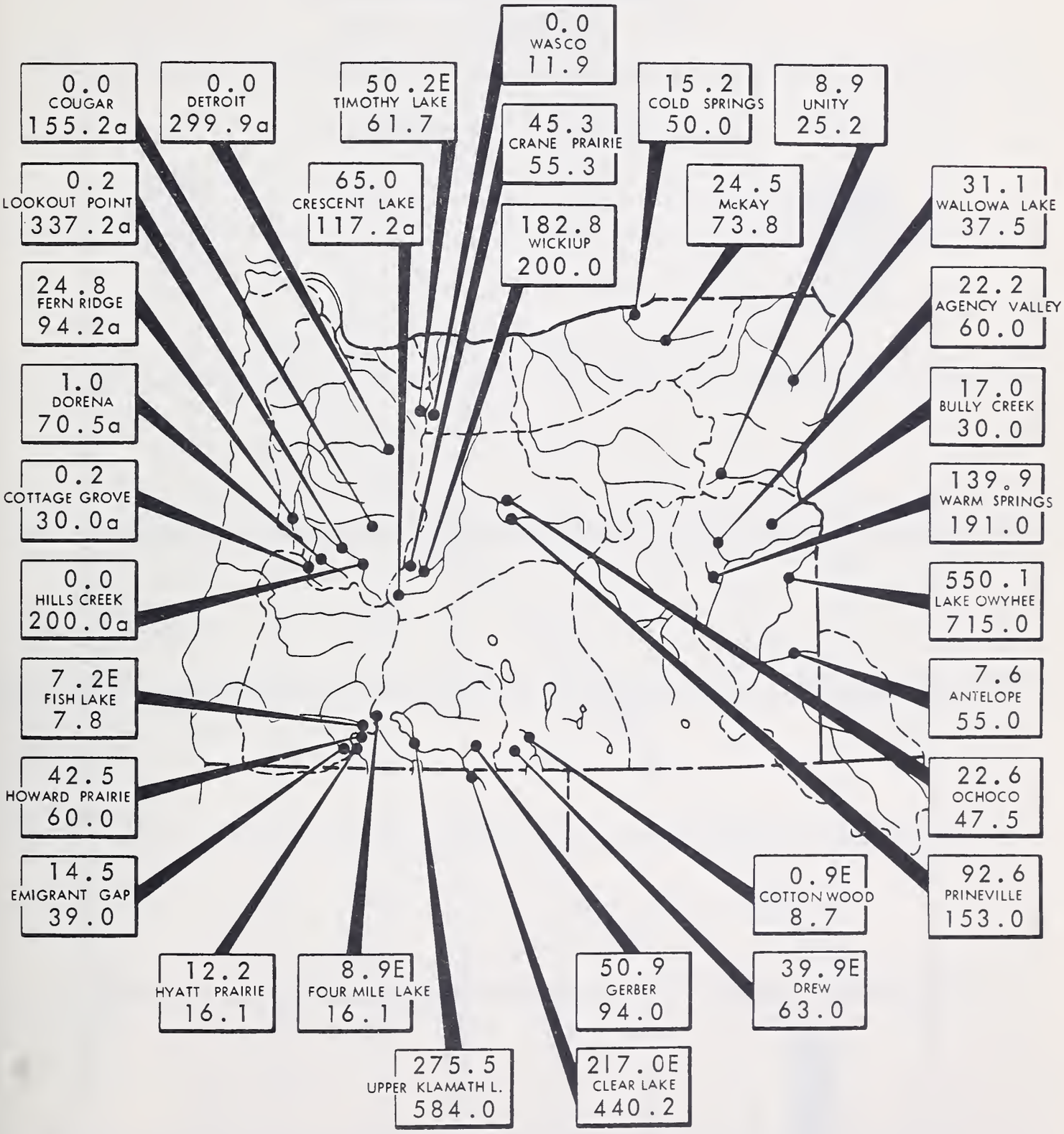
Preliminary figures of streamflow* on key Oregon streams for the period since October 1, 1965 are all below average except for the Klamath and Owyhee which have flowed about 100 and 117 percent average, respectively. Flows of the Rogue, Umpqua and Willamette Middle Fork have been considerably below average and are reported as 54, 39 and 36 percent of average, respectively.

* Preliminary data from U. S. Geological Survey; Oregon State Engineer; U. S. Bureau of Reclamation and Pacific Power and Light Company, Portland.

DAILY RADIO REPORTS BY AUTOMATIC SNOW MEASURING STATION



STORAGE STATUS of OREGON RESERVOIRS
usable contents in thousands of acre feet
JANUARY 1, 1966



EXPLANATION

687.0
LAKE OWYHEE
715.0

---Contents

---Capacity

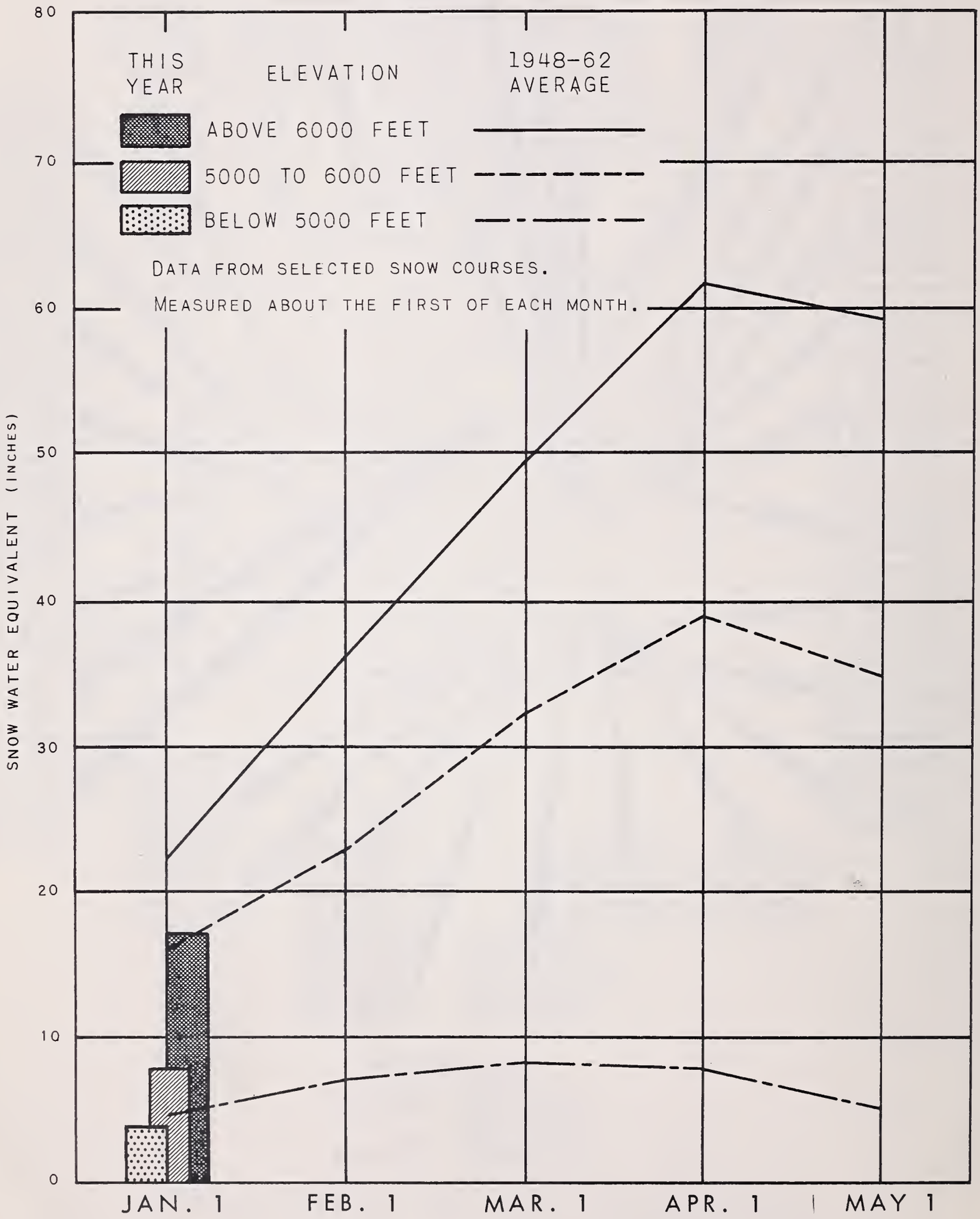
(a) Multiple purpose reservoir - space reserved for flood runoff.

N. R. - No report.

E - Partially estimated.

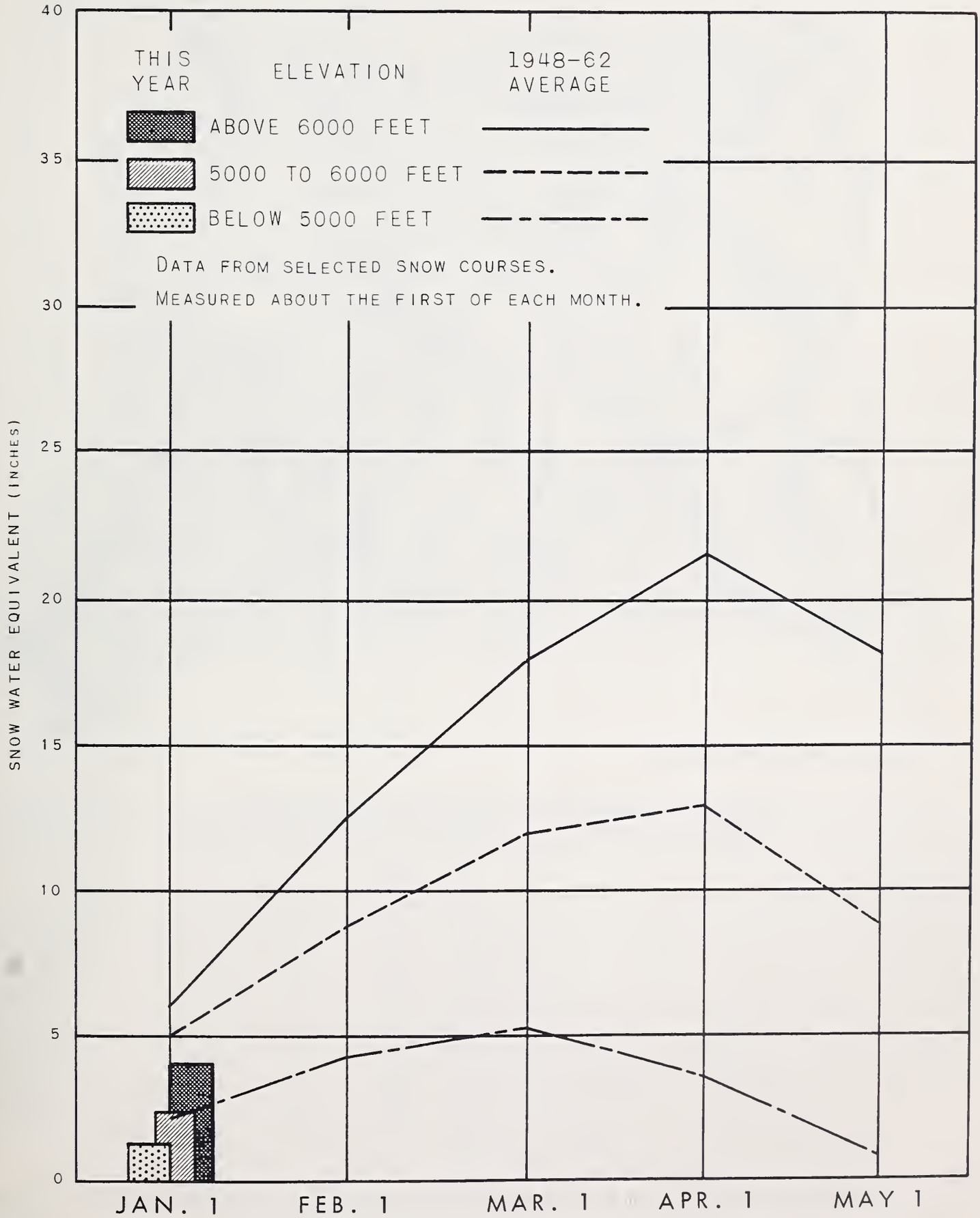
SNOW WATER ACCUMULATION IN OREGON CASCADES

JANUARY 1, 1966



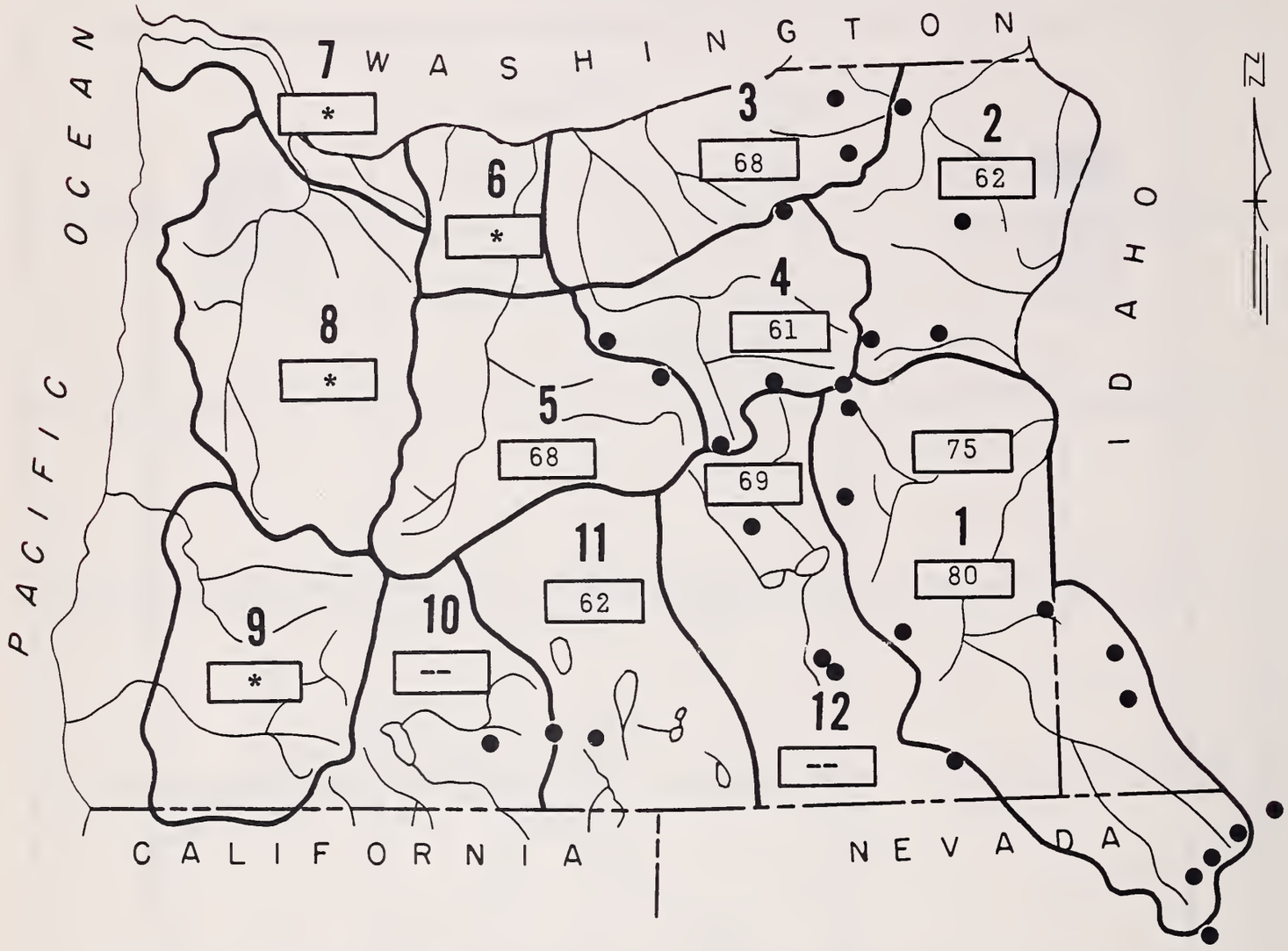
SNOW WATER ACCUMULATION IN EASTERN OREGON

JANUARY 1, 1966



MOUNTAIN SOIL MOISTURE in OREGON
as percent of capacity

JANUARY 1, 1966

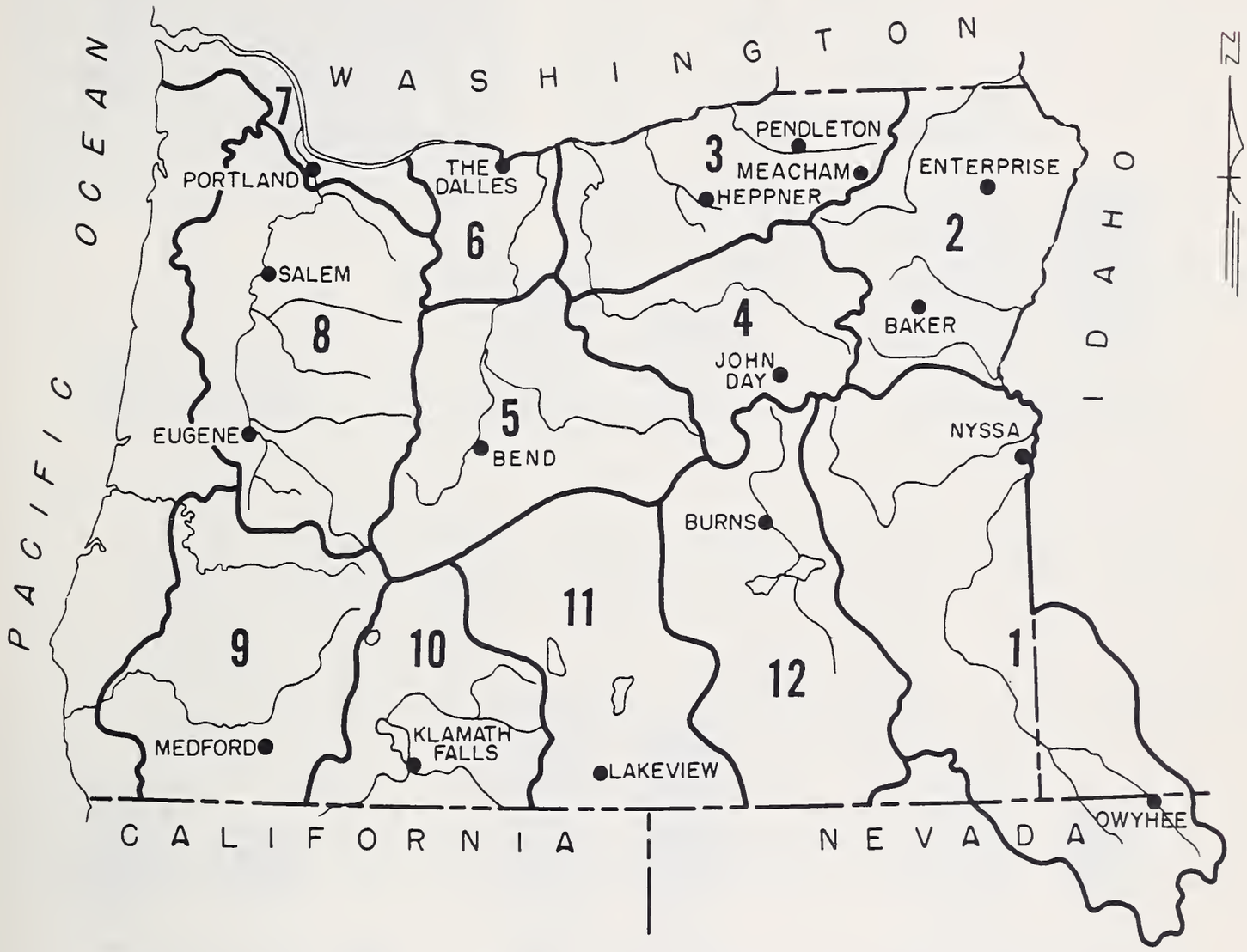


● Soil Moisture Station

**Moisture studies not yet developed in these areas.*

VALLEY PRECIPITATION in OREGON [a]

JANUARY 1, 1966

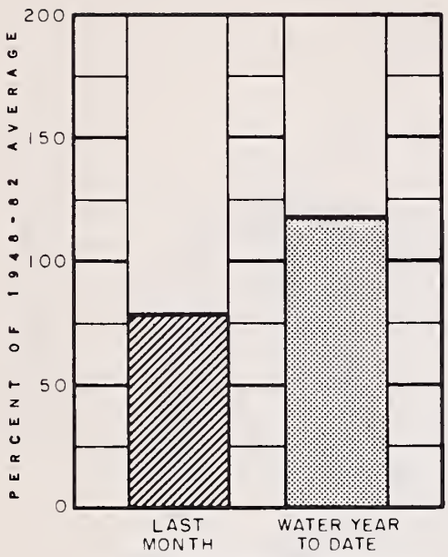


PRECIPITATION as PERCENT of the 1948-62 AVERAGE					
STATION	LAST MONTH	WATER YEAR TO DATE [b]	STATION	LAST MONTH	WATER YEAR TO DATE [b]
Baker Apt.	31	48	Lakeview	45	83
Bend	39	54	Meacham	35	39
Burns	52	76	Medford Apt.	112	85
Enterprise	14	33	Nyssa	17	92
Eugene Apt.	111	102	Pendleton Apt.	18	58
Heppner	23	56	Portland Apt.	129	113
John Day	34	50	Salem Apt.	123	104
Klamath Falls Apt.	44	85	The Dalles	31	58
			Owyhee (Nev.)	93	96

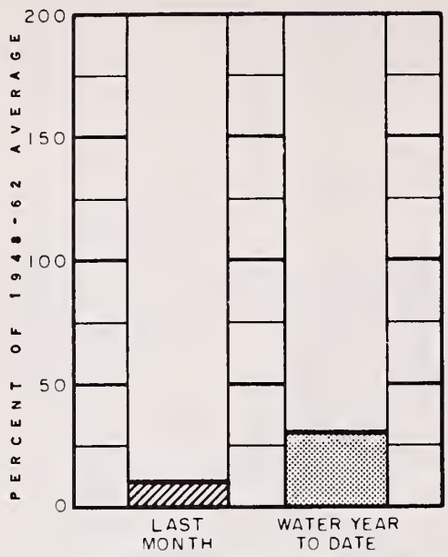
(a) Preliminary data furnished by the U.S. Weather Bureau. (b) Oct. 1 to date. (c) Report delayed.

CURRENT OREGON STREAMFLOW

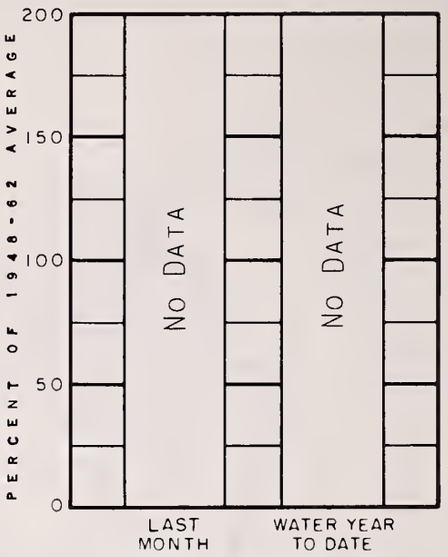
JANUARY 1, 1966



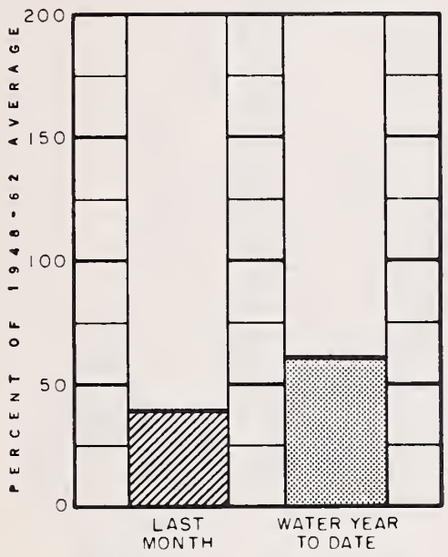
Owyhee Lake net inflow



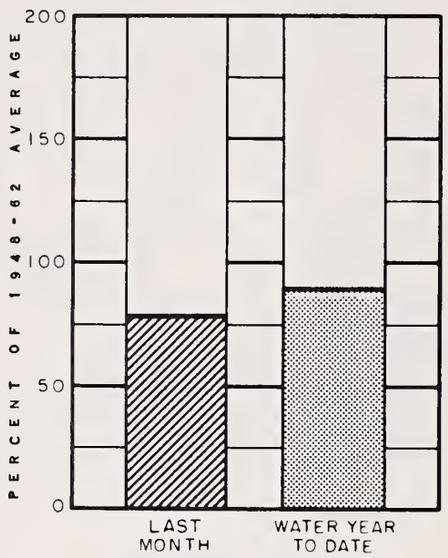
Grande Ronde at La Grande



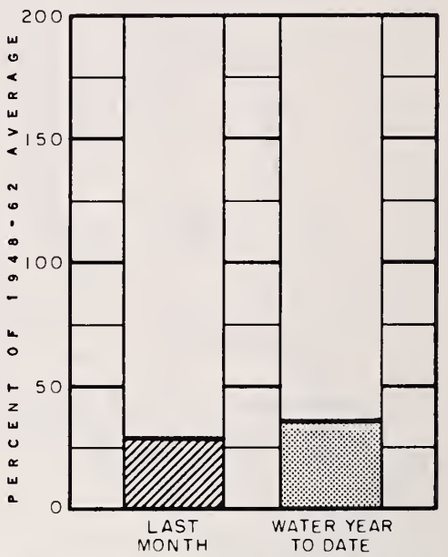
Umatilla at Pendleton



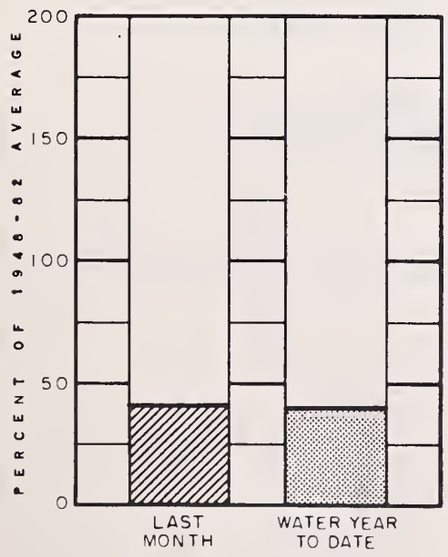
John Day at Service Creek



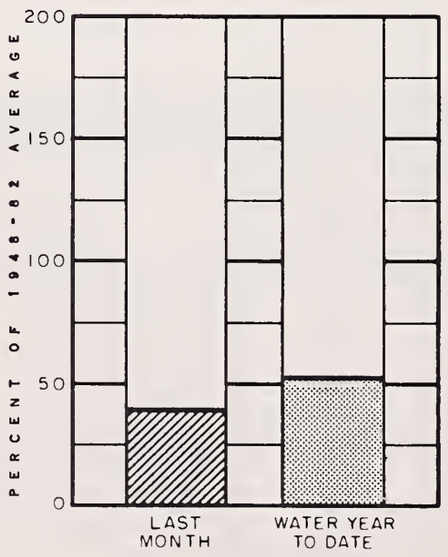
Deschutes at Moody



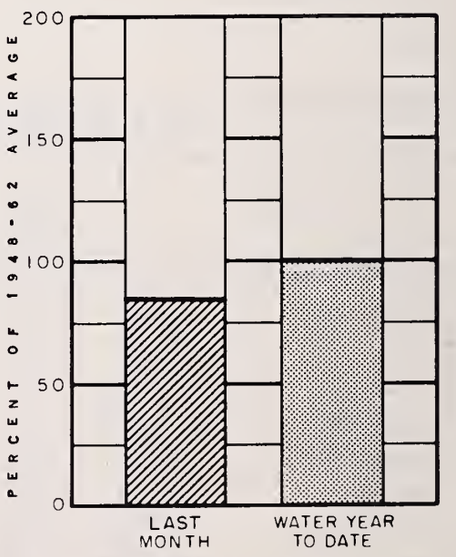
Mid. Fk. Willamette below No. Fk.



Umpqua near Elkton



Rogue at Raygold



Upper Klamath Lake net inflow

Data furnished by U.S. Geological Survey; The Pacific Power and Light Co.; and North and South Boards of Control Owyhee Project.

Area 1

WATER SUPPLY OUTLOOK
OWYHEE, MALHEUR WATERSHEDS
OREGON

as of
JANUARY 1, 1966

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

Malheur County farmers, ranchers and other water users can look ahead to good to excellent water supplies in the spring and summer of 1966. Unusually light mountain snowpacks have increased considerably in the recent storms. Stored water supplies are excellent already because of heavy carryover from last year.

SNOW COVER

Water content of the mountain snowpack was about 57 percent of the 15-year average (1948-62) at the end of December and only 50 percent of the 1965 pack. Recent storms have improved this situation.

SOIL MOISTURE

Watershed soils under the snowpack were wet up to 75 percent of capacity on the Malheur and 80 percent on the Owyhee. Not quite as wet as a year ago.

RESERVOIR STORAGE

Owyhee reservoir held 550,140 acre feet on January 1 compared with 639,200 a year ago and a 15-year average storage of 316,500 acre feet. This is an excellent supply.

Warmsprings reservoir held 139,900 acre feet compared with 72,300 acre feet a year ago. Agency Valley reservoir held 22,220 acre feet this year and 33,600 one year ago. Bully Creek reservoir has 17,000 acre feet in storage compared with 21,200 acre feet last year.

A record total of 179,000 acre feet of stored water is already on hand for water users served from the Malheur River as compared with 127,000 acre feet at this date last year. This is nearly three times the usual stored water at this date.

Jordan Valley Irrigation District already has 7,6000acre feet of water stored in Antelope reservoir. This is an excellent start although last year's storage was 21,200 acre feet at this date.

STREAMFLOW

Fair to near average streamflows are expected next spring if snow continues to accumulate in near normal amounts during the balance of the winter.

Flow into Lake Owyhee* has been 117 percent of the average since October 1 but was only 79 percent average in December.

* Preliminary data furnished by North Board of Control, Nyssa, Oregon.

Report prepared by
W.T. FROST AND BOB L. WHALEY
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
1218 S.W. WASHINGTON ST.
PORTLAND, OREGON 97205

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Boulder Creek Bully Creek Cow Creek Jordan Creek Jordan Valley Irrig. Dist. McDermitt Creek Oregon Canyon Creek Owyhee Project Succor Creek Tenmile Creek Vale-Oregon Irrig. Dist. Warmsprings Irrig. Dist. Willow Creek (Reservoired)	Forecasts begin in the February 1 report which will reach you about February 10, 1966.	

RESERVOIR STORAGE (1,000 Ac. Ft.) January 1, 1966

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Agency Valley	60.0	22.2	33.6	17.3
Antelope	55.0	7.6	14.0	- -
Bully Creek	30.0	17.0	21.2	- -
Owyhee	715.0	550.1	639.2	316.5
Warmsprings	191.0	139.9	72.3	44.7

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of January 1, 1966

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[i]
NO.	NAME				
1780	Jordan Creek above Lone Tree Creek	c	April-July	98	
		c	April-Sept.	98	
2140	Malheur near Drewsey	c	Feb.-July	122	
		c	April-Sept.	82	
2175	Malheur, North Fork at Beulah[d]	c	Feb.-July	79	
		c	April-Sept.	65	
1825	Owyhee Reservoir net Inflow[k]	c	Feb.-July	533	
		c	April-Sept.	381	

SOIL MOISTURE

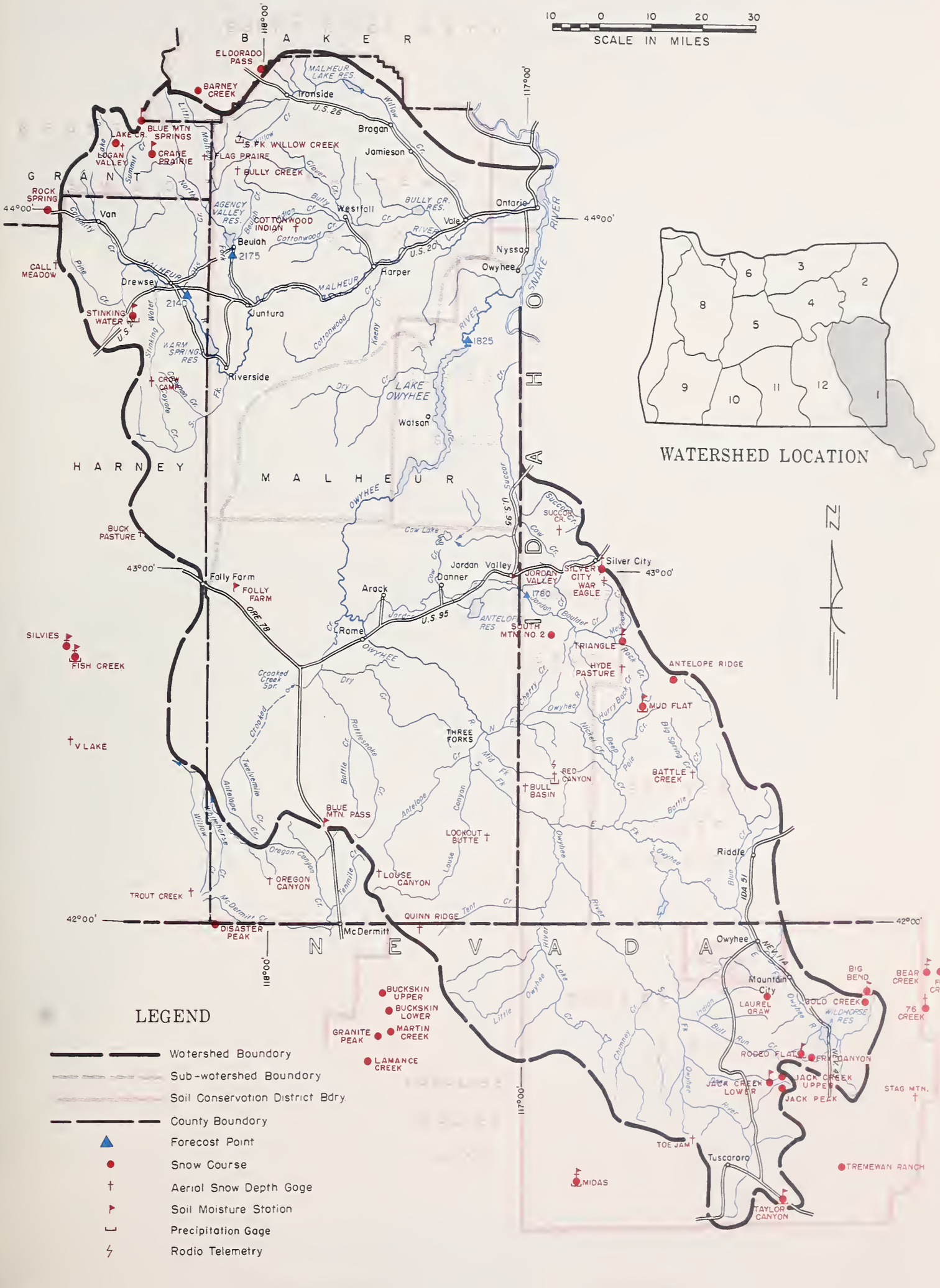
STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Bear Creek (Nev.)	7800	72	16.8	11-5-65	10.6	8.2[f]	8.5[f]
Big Bend (Nev.)	6700	48	16.7	12-28-65	14.6	16.2	- -
Blue Mountain Springs	5900	42	16.9	12-28-65	6.6	13.1	7.2
Crane Prairie	5375	48	18.2	12-28-65	14.6	16.0	14.3
Folly Farm	4450	30	12.5	c			
Jack Creek, Lower (Nev.)	6800	48	8.6	c			
Jordan Valley	4390	48	19.3	11-18-65	14.7	14.7	14.6
Mud Flat (Ida.)	5500	48	12.8	12-28-65	10.8	- -	10.2[f]
Rodeo Flat (Nev.)	6800	42	11.0	12-28-65	10.6	11.0	10.4
Stinking Water Summit	4800	48	21.9	11-19-65	21.4	21.3	20.8
Taylor Canyon	6200	48	15.1	12-29-65	12.4	15.0	12.6[f]
Triangle (Ida.)	5150	48	16.6	11-16-65	14.4	- -	9.6[f]

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	
					LAST YEAR	1948-62 AVERAGE
Antelope Ridge (Ida.)	5900	c				
Barney Creek	5950	c				
Battle Creek[e] (Ida.)	5700	c				
Bear Creek (Nev.)	7800	Report	delayed			
Big Bend (Nev.)	6700	12/28	10	1.7[j]	4.5	3.5[h]
Blue Mountain Springs	5900	12/28	15	2.8	11.6	6.0[h]
Buck Pasture[e]	5700	c				
Buckskin, Lower (Nev.)	6700	c				
Buckskin, Upper (Nev.)	7200	c				

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (l) Ground measurement. (m) Average for 5 or more years in base period.

OWYHEE, MALHEUR WATERSHEDS



OR-1c

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
					WATER CONTENT (Inches)	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	LAST YEAR	1948-62 AVERAGE
Bull Basin[e] (Ida.)	5600	[c]				
Bully Creek[e]	5300	[c]				
Call Meadow[e]	5340	[c]				
Columbia Basin[e] (Nev.)	6650	[c]				
Cottonwood-Indian[e]	4320	[c]				
Crane Prairie	5375	12/28	12	2.2	- -	- -
Crow Camp[e]	5500	[c]				
Disaster Peak (Nev.)	6500	[c]				
Eldorado Pass	4600	12/29	7	1.2	0.6	1.2[h]
Fawn Creek[e] (Nev.)	7000	[c]				
Fish Creek	7900	[c]				
Flag Prairie[e]	4750	[c]				
Fox Creek (Nev.)	6800	[c]				
Fry Canyon (Nev.)	6700	12/28	13	2.5[j]	2.5	3.1[h]
Gold Creek (Nev.)	6600	12/28	2	0.2[j]	2.1	2.2[h]
Granite Peak (Nev.)	7800	[c]				
Hyde Pasture[e] (Ida.)	5800	[c]				
Jack Creek, Lower (Nev.)	6800	[c]				
Jack Creek, Upper (Nev.)	7250	[c]				
Jack Peak (Nev.)	8420	[c]				
Lake Creek	5120	12/28	11	2.1	- -	- -
Logan Valley[e]	5100	[c]				
Lookout Butte[e]	5650	[c]				
Louse Canyon[e]	6440	[c]				
Martin Creek (Nev.)	6700	[c]				
Merritt Mountain (Nev.)	7000	[c]				
Midas (Nev.)	7200	[c]				
Mud Flat (Ida.)	5500	12/28	T	T[j]	- -	- -
Oregon Canyon[e]	6950	[c]				
Quinn Ridge[e] (Nev.)	6300	[c]				
Red Canyon[e] (Ida.)	6500	[c]				
Rock Spring	5100	12/29	9	0.9	2.2	2.1
Rodeo Flat (Nev.)	6800	12/28	13	2.4[j]	1.9	3.4[h]
76 Creek (Nev.)	7100	Report	delayed			
Silver City[e] (Ida.)	6400	12/29	15	3.1[j]	- -	6.5[m]
Silvies	6900	[c]				
South Mountain #2 (Ida.)	6340	12/29	3	0.5[j]	8.3	4.5[h]
Stinking Water	4800	12/28	7	1.3	T	2.0[h]
Succor Creek[e] (Ida.)	6100	[c]				
Taylor Canyon (Nev.)	6200	12/29	14	2.3[j]	1.1	1.8[h]
Toe Jam[e] (Nev.)	7700	[c]				
Tremewan Ranch (Nev.)	5700	12/29	11	1.9[j]	T	0.4[h]
Triangle[e] (Ida.)	5150	[c]				
Trout Creek[e]	7800	[c]				
"V" Lake[e]	6600	[c]				

"The Conservation of Water begins with the Snow Survey"

Area 2

WATER SUPPLY OUTLOOK
BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS
OREGON

as of
JANUARY 1, 1966

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

Farmers, ranchers, and other water users of Baker, Union, and Wallowa Counties can expect spring and summer water supplies in 1966 to be somewhat below average unless snow accumulates at a faster that average rate for the balance of the winter. This has been the driest corner of the state since October 1 in terms of precipitation compared to the average.

SNOW COVER

Water content of the mountain snowpack is only 40 percent of the 15-year average (1948-62) and is only 28 percent of last year at this date.

SOIL MOISTURE

Moisture in the soil mantle under the snowpack is only 62 percent of capacity and much snow-melt water will be absorbed as spring runoff begins.

RESERVOIR STORAGE

Water stored in reservoirs is nearly double the average. Water held in Unity reservoir is 8,900 acre feet compared with 14,300 a year ago. Wallowa Lake already holds 31,100 acre feet compared with 24,500 last year at this date.

STREAMFLOW

Streamflow next spring and summer will be below average unless snowpacks accumulate at a much greater than average rate.

Provisional data* on the flow of the Grande Ronde River at La Grande reflects the exceptional dryness of this corner of the state. December flow was only 11 percent average while the total flow from October 1 to date has been only 30 percent of the average (1948-62).

* Provisional data furnished by U. S. Geological Survey, Portland, Oregon.

Report prepared by
W.T. FROST AND BOB L. WHALEY
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
1218 S.W. WASHINGTON ST.
PORTLAND, OREGON 97205

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Alder Slope Baker Valley Big Creek Clover Cr. (nr. N. Powder) Cove Durkee Eagle Valley Elgin Enterprise-Joseph Hereford-Bridgeport Imnaha River LaGrande-Island City Lostine-Wallowa No. Powder River-Wolf Cr. Pine Valley Powder River-Elk Creek Summerville Sumpter Valley Union-Hot Lake Unity	Forecasts begin in the February 1 report which will reach you about February 10, 1966.	

RESERVOIR STORAGE (1,000 Ac. Ft.) January 1, 1966

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Unity	25.2	8.9	14.3	5.2
Wallowa Lake	37.5	31.1	24.5	17.2

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of January 1, 1966

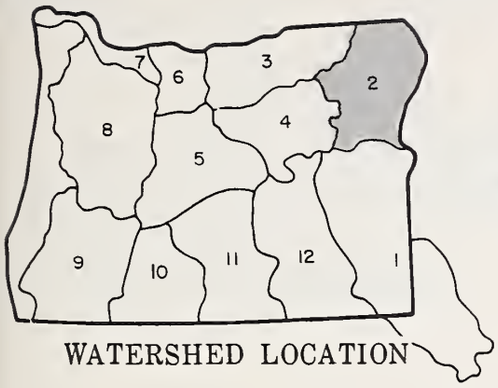
FORECAST POINT NO.	FORECAST POINT NAME	FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[i]
3305	Bear near Wallowa	c	April-Sept.	72	
2730	Burnt near Hereford[d]	c	Feb.-June	53	
		c	April-Sept.	41	
3200	Catherine near Union	c	April-Sept.	73	
3190	Grande Ronde at La Grande	c	March-Sept.	246	
		c	April-Sept.	203	
3295	Hurricane near Joseph	c	April-Sept.	48	
2920	Imnaha at Imnaha	c	April-Sept.	318	
3300	Lostine near Lostine	c	April-Sept.	131	
2755	Powder near Baker	c	April-July	66	
		c	April-Sept.	67	
3250	Wallowa, East Fork near Joseph[d]	c	Feb.-Sept.	13.4	
		c	April-Sept.	12.0	

SOIL MOISTURE

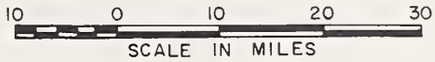
STATION NAME	STATION ELEVATION	PROFILE (Inches) DEPTH	PROFILE (Inches) CAPACITY	SOIL MOISTURE (Inches) DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Blue Mountain Summit	5100	36	16.8	12-30-65	8.5	11.6	9.3
Emigrant Springs	3925	48	22.3	12-30-65	13.1	18.5	19.0
Tollgate	5070	48	23.6	12-30-65	17.2	19.3	19.0

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS



WATERSHED LOCATION



LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Boundary
- County Boundary
- ▲ Forecast Point
- ● Snow Course
- Soil Moisture Station
- † Aerial Snow Depth Gage
- ⌴ Precipitation Gage

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
					WATER CONTENT (Inches)	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	LAST YEAR	1948-62 AVERAGE
Aneroid Lake #1	7480	c				
Aneroid Lake #2	7300	c				
Anthony Lake	7125	12/29	18	3.5	21.1	11.9
Bald Mountain[e] (Ore.)	6700	c				
Barney Creek	5950	c				
Beaver Reservoir	5340	12/27	8	1.4[j]	6.6	4.8[h]
Big Sheep[e]	6200	c				
Blue Mountain Summit	5098	12/30	11	2.1	4.8	3.5
Bourne	5800	c				
County Line	4800	1/1	5	1.2	3.1	2.9[h]
Dooley Mountain	5430	12/29	9	1.8	5.5	3.5[h]
Eilertson Meadows	5400	12/29	10	2.3	7.9	5.0[h]
Eldorado Pass	4600	12/29	7	1.2	0.6	1.2[h]
Gold Center	5340	c				
Goodrich Lake	6775	c				
Intake House	4930	12/29	15	2.8	- -	- -
Little Alps	6200	12/29	15	2.0	8.9	- -
Little Antone	5000	12/29	12	2.0	- -	- -
Lucky Strike	5050	c				
Meacham	4300	12/30	6	1.9	5.3	3.3[h]
Mirror Lake[e]	8200	c				
Moss Spring	5850	12/28	13	3.0	13.8	10.9
Power Plant	3990	12/29	7	2.0	- -	- -
Schneider Meadows	5400	c				
Schoolmarm	4775	1/1	4	0.9	1.8	2.6[h]
Standley	7400	c				
Taylor Green	5740	c				
Tipton	5100	12/30	13	2.5	5.9	4.9[h]
Tollgate	5070	12/30	20	3.7	12.8	9.6[h]
TV Ridge	7000	c				

"The Conservation of Water begins with the Snow Survey"

Area 3

WATER SUPPLY OUTLOOK
UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS
OREGON

as of
JANUARY 1, 1966

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

Farmers, ranchers, and other water users in Umatilla, Morrow and Gilliam Counties can expect spring and summer water supplies in 1966 to be slightly below average unless snow accumulates at a faster than average rate for the balance of the winter. Stored water supplies are fairly satisfactory but watershed soils are probably much drier than average. Precipitation has been much below average.

SNOW COVER

Water content of the mountain snowpack at the end of December was only 45 percent of the 15-year average (1948-62) and only 30 percent of last year on this date. Early January storms brought some increase but heavy storms are needed if the snowpack is to accumulate to an average condition.

SOIL MOISTURE

Moisture in the soil mantle under the snowpack was only 68 percent of capacity at the end of December. Soils probably absorbed some of the rain which came from early January storms but complete recharge will not come until spring snow melt when soils will have to soak up part of the runoff.

RESERVOIR STORAGE

Stored water supplies are well above average in McKay reservoir due to an excellent carryover from last season. There now are 24,500 acre feet in storage compared with 30,800 acre feet last year and an average figure of 19,900 acre feet.

Cold Springs reservoir contains 15,200 acre feet compared with 22,200 a year ago and 20,900 acre feet which is the average figure.

STREAMFLOW

Spring and summer flow of streams in this mid-Columbia area is expected to be below average. This picture will brighten only if above average snow accumulation occurs during the remainder of the winter season.

One indication of the dryness of the watersheds in northeastern Oregon is the extremely low flow of the Grande Ronde* River at La Grande. That stream flowed only 11 percent of the average (1948-62) in December and the total flow from October 1 to January 1 was only 30 percent average.

* Preliminary data from U. S. Geological Survey, La Grande, Oregon.

Report prepared by
W.T. FROST AND BOB L. WHALEY
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
1218 S.W. WASHINGTON ST.
PORTLAND, OREGON 97205

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Birch Creek Butter Creek Dry Creek Dugger Creek Johnson Creek McKay Creek Mill Creek Mud Creek Pine Creek Rhea Creek Rock Creek Umatilla R. (Cold Springs Reservoir) Umatilla River, Main Umatilla River (McKay Res.) Walla Walla River, Little Walla Walla River, Main Walla Walla River, No. Fk. Walla Walla River, So. Fk. Willow Creek	Forecasts begin in the February 1 report which will reach you about February 10, 1966.	

RESERVOIR STORAGE (1,000 Ac. Ft.) January 1, 1966

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Cold Springs	50.0	15.2	22.2	20.9
McKay	73.8	24.5	30.8	19.9

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of January 1, 1966

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[i]
NO.	NAME				
0320	Butter Creek near Pine City	c	March-July	14.5	
0225	McKay near Pilot Rock	c	Feb.-July	62	
		c	April-Sept.	32	
0200	Umatilla near Gibbon	c	March-Sept.	116	
		c	April-Sept.	93	
0210	Umatilla at Pendleton	c	March-Sept.	247	
		c	April-Sept.	183	
0100	Walla Walla, South Fork near Milton	c	March-Sept.	89	
		c	April-Sept.	76	

SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Athena-Weston	1700	48	18.7	12-30-65	12.0	14.4	13.7
Battle Mountain Summit	4340	48	13.8	12-30-65	10.9	12.1	12.4
Emigrant Springs	3925	48	22.3	12-30-65	13.1	18.5	19.0
Tollgate	5070	48	23.6	12-30-65	17.2	19.3	19.0

SNOW

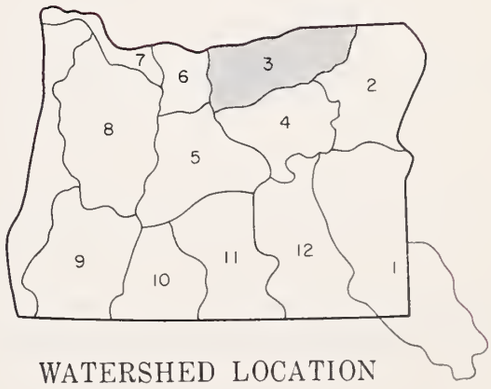
SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	
					LAST YEAR	1948-62 AVERAGE
Arbuckle Mountain	5400	c				
Battle Mountain Summit	4340	12/30	5	0.8	1.4	- -
Blue Mountain Camp	4300	12/30	12	2.0	8.8	- -
Emigrant Springs	3925	12/30	6	1.3	3.3	2.3[h]
Lucky Strike	5050	c				
Meacham	4300	12/30	6	1.9	5.3	3.3[h]
Tollgate	5070	12/30	20	3.7	12.8	9.6[h]
Weston Mountain	2700	12/30	0	0.0	0.2	- -

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records.

UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- Forecast Point
- Snow Course
- Soil Moisture Station
- Precipitation Gage



WATERSHED LOCATION

"The Conservation of Water begins with the Snow Survey"

Area 4

WATER SUPPLY OUTLOOK
UPPER JOHN DAY WATERSHEDS
OREGON

as of
JANUARY 1, 1966

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

Farmers, ranchers, and other water users in Grant and Wheeler Counties in the John Day country can expect spring and summer water supplies in 1966 to be somewhat below average unless snow accumulates at a faster than average rate for the balance of the winter. Precipitation has been much below average in this portion of the state since October 1. Early January storms eased the situation somewhat.

SNOW COVER

Water content of the mountain snowpack at the end of December is only 45 percent of the 15-year average (1948-62) and is only 31 percent of last year on this date.

SOIL MOISTURE

Moisture in the soil mantle under the snowpack is only 61 percent of capacity and much snow-melt water will be absorbed as spring runoff begins.

STREAMFLOW

Spring and summer streamflow in the John Day country will probably be below average unless snowpacks accumulate at a greater than average rate.

Flow of the John Day River at Service Creek* was only 34 percent of average in December, whereas, the total flow since October 1 has been about 50 percent of the average.

* Preliminary data from U. S. Geological Survey, Portland, Oregon.

Report prepared by
W.T. FROST AND BOB L. WHALEY
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
1218 S.W. WASHINGTON ST.
PORTLAND, OREGON 97205

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Beech Creek Beech Creek-Fox-Long Cr. Bridge-Mountain Creeks Camas Creek Cherry Creek Indian-Pine Creeks John Day River, Main Fork John Day River, Mid. Fork John Day River, N. Fork John Day River, S. Fork Monument-Kimberly Strawberry Creek	Forecasts begin in the February 1 report which will reach you about February 10, 1966.	

RESERVOIR STORAGE (1,000 Ac. Ft.) January 1, 1966

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of January 1, 1966

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[i]
NO.	NAME				
0385	John Day at Prairie City	[c]	March-July	56	
		[c]	April-Sept.	51	
0440	John Day, Middle Fork at Ritter	[c]	March-July	153	
		[c]	April-Sept.	131	
0375	Strawberry near Prairie City	[c]	March-July	8.2	
		[c]	April-Sept.	8.8	

SOIL MOISTURE

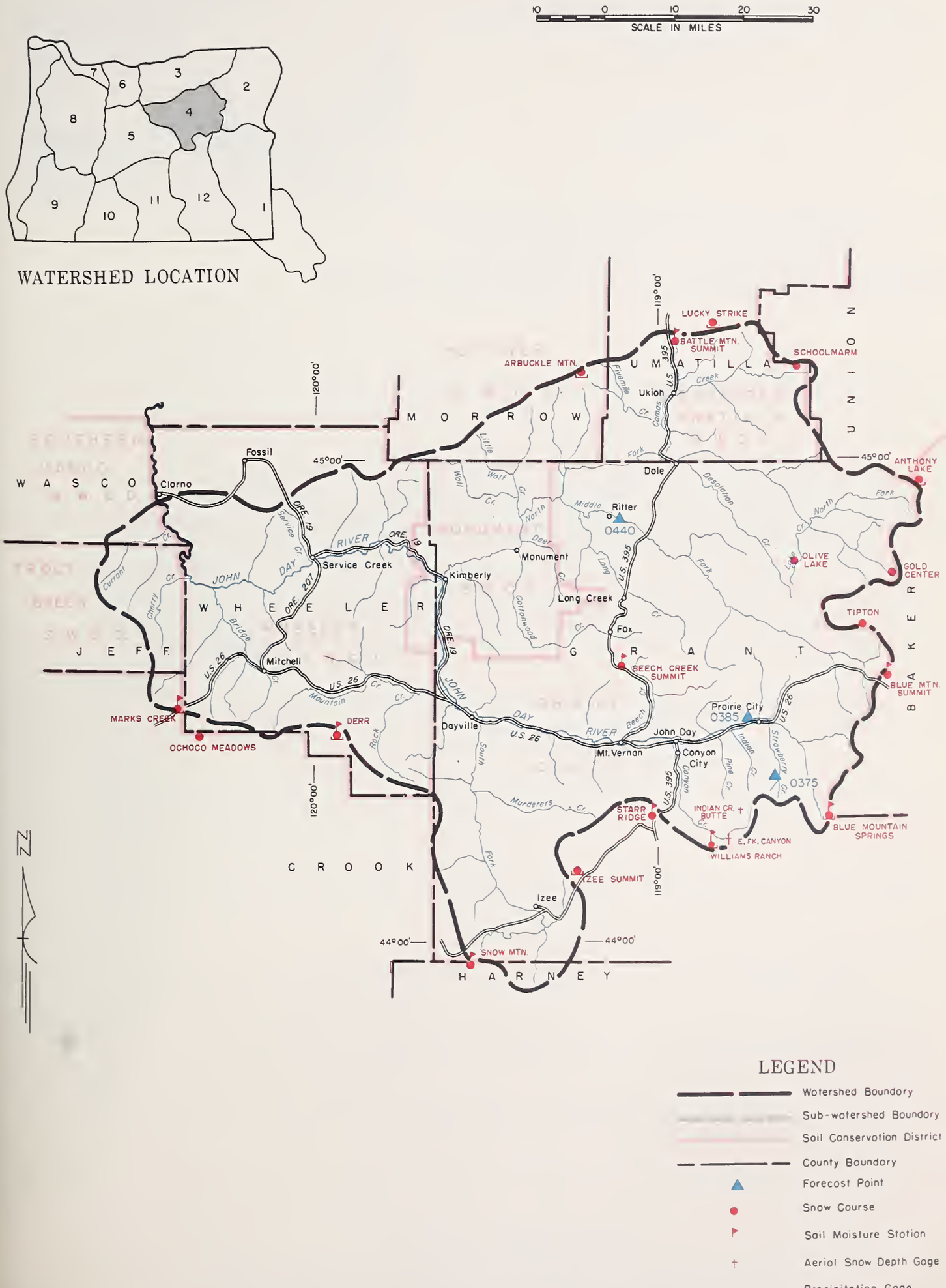
STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Battle Mountain Summit	4340	48	13.8	12-30-65	10.9	12.1	12.4
Blue Mountain Springs	5900	42	16.9	12-28-65	6.6	13.1	7.2
Blue Mountain Summit	5100	36	16.8	12-30-65	8.5	11.6	9.3
Derr	5670	24	9.0	[c]			
Marks Creek	4540	36	14.1	12-29-65	9.5	13.7	9.2
Snow Mountain	6300	48	16.7	12-28-65	11.6	16.3	- -
Starr Ridge	5150	36	10.6	12-28-65	7.5	10.4	7.0

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches) LAST YEAR	WATER CONTENT (Inches) 1948-62 AVERAGE
Anthony Lake	7125	12/29	18	3.5	21.1	11.9
Arbuckle Mountain	5400	[c]				
Battle Mountain Summit	4340	12/30	5	0.8	1.4	- -
Beech Creek Summit	4800	12/27	8	1.0	1.3	2.0[h]
Blue Mountain Springs	5900	12/28	15	2.8	11.6	6.0[h]
Blue Mountain Summit	5098	12/30	11	2.1	4.8	3.5
Derr	5670	[c]				
East Fork Canyon[e]	5700	[c]				
Gold Center	5340	[c]				
Indian Creek Butte[e]	6550	[c]				
Izee Summit	5293	12/27	12	1.8	4.7	3.1[h]
Lucky Strike	5050	[c]				
Marks Creek	4540	12/29	7	1.0	1.8	1.4[m]
Ochoco Meadows	5200	[c]				
Olive Lake	6000	1/1	27	4.0	- -	8.3[h]
Schoolmarm	4775	1/6	4	0.9	1.8	2.6[h]
Snow Mountain	6300	12/28	13	2.7	9.9	- -
Starr Ridge	5150	12/27	10	1.2	4.2	2.4[h]
Tipton	5100	12/30	13	2.5	5.9	4.9[h]
Williams Ranch	4500	12/28	5	0.7	0.2	- -

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

UPPER JOHN DAY WATERSHEDS



OR-4c

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
UPPER DESCHUTES, CROOKED WATERSHEDS
OREGON

as of
JANUARY 1, 1966

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

Farmers, ranchers, and other water users in Crook, Jefferson, and Deschutes Counties can look ahead to water supplies that will be good to excellent in the spring and summer of 1966.

SNOW COVER

Water content of the mountain snowpack at the end of December was 71 percent of the 15-year average (1948-62) on Crooked River watersheds and 78 percent average on the Deschutes. The snow is less than half of that measured a year ago but has increased considerably in the early January storms.

SOIL MOISTURE

Moisture in the soil mantle under the snowpack is about average for this date but is considerably less than a year ago when a chinook and rains provided an early recharge of the soils.

RESERVOIR STORAGE

Carryover storage in local reservoirs brightens greatly the irrigation outlook for this mid-Oregon agricultural area. Present storage is now 124 percent average on the Crooked and 134 percent average on the Deschutes.

Wickiup reservoir is nearly full with 182,800 acre feet now in storage. Crane Prairie holds 45,300 acre feet compared with 56,900 acre feet a year ago. Crescent Lake reports a total of 65,000 acre feet compared with 60,100 following last year's Christmas week flood.

Ochoco reservoir holds 22,600 acre feet compared with 39,700 last year and Prineville reservoir has 92,600 acre feet in storage compared to 151,500 acre feet which nearly filled that reservoir a year ago.

STREAMFLOW

Spring and summer streamflow in the Deschutes-Crooked area is expected to be near average if snow continues to accumulate at the average rate for the balance of the winter.

Flow of the Deschutes River at Moody* was about 79 percent of the 15-year average in December, whereas, the total flow since October 1 has been about 89 percent of the average.

* Preliminary data from U. S. Geological Survey, Portland, Oregon.

Report prepared by
W.T. FROST AND BOB L. AHALEY
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
1218 S.W. WASHINGTON ST.
PORTLAND, OREGON 97205

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Arnold Irrigation District Bear Creek Beaver Creek Camp Creek Central Ore. Irrig. Dist. Crooked River Deschutes River Hay-Trout Creeks Lone Pine Irrig. Dist. Mill Creek North Unit Irrig. Dist. Ochoco Creek Sisters Irrigation Dist. Snow Creek Irrig. Dist. Squaw Creek Irrig. Dist. Swalley Ditch Tumalo Project Walker Basin Irrig. Dist.	Forecasts begin in the February 1 report which will reach you about February 10, 1966.	

RESERVOIR STORAGE (1,000 Ac. Ft.) January 1, 1966

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Crane Prairie	55.3	45.3	56.9	37.1
Crescent Lake	117.2*	65.0	60.1	46.9
Ochoco	47.5	22.6	39.7	17.5
Prineville	153.0	92.6	151.5	- -
Wickiup	200.0	182.8	117.2	135.5

*Includes space for 25,790 a.f. for flood storage only.

Note: Current storage figure for Crescent Lake includes 5360 acre feet of known dead and inactive storage.

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of January 1, 1966

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[i]
NO.	NAME				
0535	Crane Prairie Reservoir total inflow	c	April-Sept.	143	
0600	Crescent at Crescent Lake[d]	c	March-July	30	
		c	April-Sept.	33	
0795	Crooked near Post	c	Feb.-July	201	
		c	April-Sept.	125	
0645	Deschutes at Benham Falls[d]	c	April-July	417	
		c	April-Sept.	631	
0500	Deschutes below Snow Creek	c	Feb.-Sept.	89	
		c	April-Sept.	75	
0630	Deschutes, Little near Lapine[d]	c	Feb.-July	130	
		c	April-Sept.	113	
0848	Ochoco Reservoir net Inflow	c	Feb.-June	50	
		c	April-Sept.	32	
0555	Odell near Crescent	c	April-Sept.	34	
0750	Squaw near Sisters	c	April-Sept.	56	
0730	Tumalo near Bend[d]	c	April-Sept.	54	

SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Derr	5670	24	9.0	c			
Marks Creek	4540	36	14.1	12-29-65	9.5	13.7	9.2
Snow Mountain	6300	48	16.7	12-28-65	11.6	16.3	- -

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

UPPER DESCHUTES, CROOKED WATERSHEDS

Upper Deschutes, Crooked Watersheds

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
					WATER CONTENT (Inches)	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	LAST YEAR	1948-62 AVERAGE
Black Pine Spring	4600	c				
Caldwell Ranch	4400	c				
Cascade Summit	4880	12/30	43	7.8	20.2	13.2[h]
Chemult	4760	12/29	27	5.2	4.3	4.8
Deer Creek	4554	c				
Derr	5670	c				
Fire Road	5050	c				
Hogg Pass	4755	12/30	73	14.1	25.4	16.6
Hungry Flat	4400	12/30	20	3.3	- -	- -
Irish Taylor	5500	c				
Marks Creek	4540	12/29	7	1.0	1.8	1.4[m]
Mowich	4700	c				
New Crescent Lake	4800	c				
New Dutchman Flat #2	6400	12/30	63	14.3	- -	- -
Ochoco Meadows	5200	c				
Paulina Lake	6330	c				
Paulina Prairie	4285	c				
Snow Mountain	6300	12/28	13	2.7	9.9	- -
Tamarack	4800	c				
Tangent	5400	12/30	48	8.0	- -	- -
Three Creeks Meadows	5650	c				
Waldo Lake	5500	c				
Willamette Pass	5600	c				
Windigo Pass	5800	c				

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS
OREGON

as of
JANUARY 1, 1966

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

Generous amounts of low-elevation snow has posed much inconvenience to Hood River-Wasco County residents but they can be pleased in the fact that excessive snow conditions have brought real improvement in the water supply outlook for 1966.

SNOW COVER

Water content of the mountain snowpack at the end of December was only 53 percent of the 15-year average (1948-62) but has been increased considerably by early January storms.

SOIL MOISTURE

Moisture in the soil at low and median elevations is excellent. Higher up on the watershed the snowpack lies on soils that have about average moisture and contain some frost in the top several inches. Some snow-melt water will be soaked up by upper watershed soils when spring runoff begins.

RESERVOIR STORAGE

Clear Lake reservoir, also known as Wasco Lake, was reported to have stored no water so far this winter. Last year there were 3,200 acre feet already in storage due mainly to the flood runoff.

STREAMFLOW

Similar to many other streams in the north and northeast portions of the state the flow of Hood River-Wasco County streams have been much below average in the period since October 1, 1965.

Spring and summer streamflow is expected to be somewhat below average in 1966 unless snow accumulates at a greater than average rate for the balance of the winter.

Report prepared by
W.T. FROST AND BOB L. WHALEY
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
1218 S.W. WASHINGTON ST.
PORTLAND, OREGON 97205

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Aldridge Ditch Badger Creek Dee Irrigation District East Fork Irrig. Dist. Farmers Irrigation Dist. Hood River Irrig. Dist. Juniper Flat Middle Fork Irrig. Dist. Mile Creeks Mill Creek Mount Hood Irrig. Dist. Rock-Gate-Threemile Crs. Tygh Creek White River	Forecasts begin in the February 1 report which will reach you about February 10, 1966.	

RESERVOIR STORAGE (1,000 Ac. Ft.) January 1, 1966

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Clear Lake	11.8	0.0	3.2	- -

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of January 1, 1966

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[i]
NO.	NAME				
1210	Hood River near Hood River[d]	c	March-Sept.	477	
		c	April-Sept.	381	
1185	Hood, West Fork near Dee	c	March-Sept.	222	
		c	April-Sept.	179	
1015	White below Tygh Valley.	c	April-July	158	
		c	April-Sept.	176	

SNOW

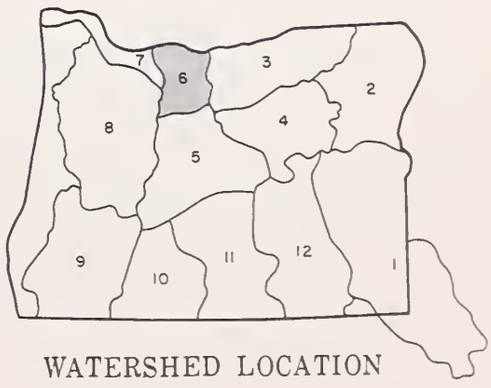
SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches) LAST YEAR	WATER CONTENT (Inches) 1948-62 AVERAGE
Brooks Meadows	4300	c				
Clear Lake	3500	12/29	17	3.0	6.2	3.4[h]
Clear Lake (Experimental)	3500	12/29	27	4.9	8.9	- -
Cooper Spur	3490	1/4	54	10.4	7.9	- -
Greenpoint Reservoir	3400	c				
Knebal Springs	3850	c				
Lambert Point	7000	c				
Parkdale	1770	1/4	26	5.4	1.7	- -
Phlox Point	5600	12/29	63	14.0	28.2	27.2
Red Hill	4400	c				
Still Creek	3700	12/29	30	5.1	10.0	10.8
Switchback	3255	c				
Tilly Jane	6000	c				
Ulrich Ranch Junction	3350	c				
Umbrella Falls	5400	12/19	26	9.0	- -	- -
Upper Valley	2530	1/4	32	8.0	4.0	- -

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry
- County Boundary
- ▲ Forecast Point
- ● Snow Course
- † Aerial Snow Depth Gage
- ⚑ Soil Moisture Station
- ⊔ Precipitation Gage



WATERSHED LOCATION

"The Conservation of Water begins with the Snow Survey"

Area 7

WATER SUPPLY OUTLOOK
LOWER COLUMBIA WATERSHEDS
OREGON

as of

JANUARY 1, 1966

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

As of this early-winter date, water supply outlook is good throughout the Columbia Basin for both irrigation and power. Streamflow forecasts based on snow surveys are not made on this early date, but present prospects (including storms of early January) are for at least average summer flow for most streams. Much of the seasonal snowfall is yet to occur. Carryover storage for irrigation is well above average except on the Yakima where storage is near average. All major reservoirs are expected to fill. If snowfall for the remainder of the season is average or greater, some winter releases will be in order.

SNOW COVER

Snow cover up to late December was extremely light. A limited schedule of snow surveys made near January 1 indicated a snowpack of 50 to 75 percent of average to that date in the United States section of the basin and near average in Canada. Storms since the first of January have brought seasonal snowpacks up to almost average at high elevations and probably above average at lower elevations in the Cascades.

SOIL MOISTURE

Soil moisture tends to be above average in most of the basin but soils are not saturated. In Oregon the soils under the snowpack are about average in moisture content. Some of the lack of early season snowpack was caused by high temperature during storm periods with rain instead of snow on mountain soils.

STREAMFLOW

The flow of the Columbia at The Dalles, Oregon* has been slightly below average during the fall and early winter months. The record by months at The Dalles is as follows:

Month	Percent of Average Discharge (1948-62)
October	93 (Adjusted for storage)
November	95 " " "
December	87 " " "

* Preliminary data furnished by Current Records Center, U. S. Geological Survey, Portland, Oregon.

Report prepared by
HOMER J. STOCKWELL
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
511 N.W. BROADWAY, RM. 507
PORTLAND, OREGON 97209

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of January 1, 1966

FORECAST POINT NO.	FORECAST POINT NAME	FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[i]
1057	Columbia at The Dalles	c	April-June	74,100	
		c	April-Sept.	108,500	

HISTORICAL DATA (Columbia River at The Dalles)

YEAR	STREAMFLOW[d] (1,000 A.F.) APR. — SEPT.	APR. — JUNE	MAY — JUNE	PEAK (1,000 c.f.s)	DATE
1943	115,000	75,300	52,400	541	June 21
1944	61,900	39,200	32,100	326	June 19
1945	81,600	54,600	47,300	505	June 8
1946	108,100	75,400	59,600	581	May 30
1947	100,300	70,000	56,800	536	May 11
1948	130,500	94,600	81,900	999	May 31
1949	95,700	71,400	56,000	622	May 18
1950	120,400	74,700	61,200	744	June 25
1951	113,000	75,600	59,100	597	May 26
1952	107,700	77,500	57,300	557	May 28
1953	100,600	64,900	55,800	609	June 17
1954	119,500	70,500	59,300	561	May 23
1955	99,500	58,300	50,300	545	June 26
1956	131,400	96,900	75,800	815	June 3
1957	105,700	80,500	67,200	700	May 22
1958	97,700	72,000	58,600	593	May 31
1959	112,500	71,900	58,900	555	June 23
1960	97,000	64,000	48,000	442	June 6
1961	101,400	74,400	64,000	699	June 8
1962	94,600	64,100	49,200	460	June 5
1948-62 Avg.	108,500	74,100	60,200	633	
1963	87,000	56,300	46,200	437	June 18
1964	109,020	70,739	61,313	662	June 18

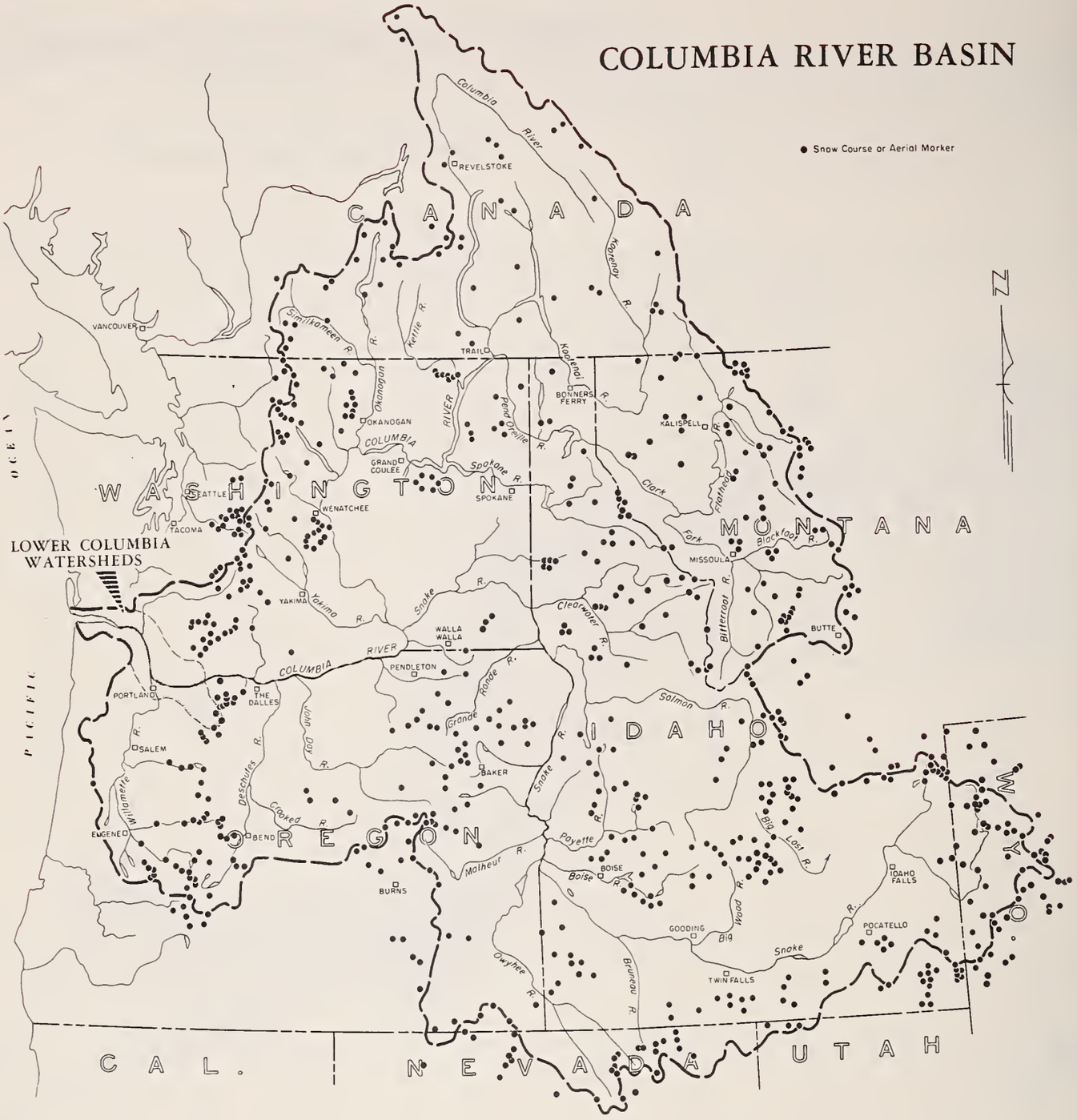
LOWER COLUMBIA RIVER FLOOD STAGES (with 9.5' tide at Astoria)

VANCOUVER GAGE (Weather Bu.)	FLOW AT THE DALLES (1,000 c.f.s)	DRAINAGE DISTRICT PUMPHOUSE SANDY	SAUVIE ISL.	SCAPPOOSE	DEER ISL.	RAINIER	BEAVER	WOODSON
		RIVER MILES 118.9	96.0	91.0	77.0	62.0	52.0	47.0
35 (1894)	1210	41.2	34.2	33.3	28.5	21.9	17.5	15.5
34	1160	40.5	33.5	32.5	27.7	21.2	17.0	15.0
33	1100	39.6	32.4	31.4	26.7	20.2	16.1	14.3
32	1050	38.9	31.5	30.5	25.7	19.5	15.4	13.7
31 (1948)	1000	38.0	30.7	29.5	25.1	18.8	14.7	13.0
30	943	36.6	29.5	28.5	24.3	18.1	14.0	12.4
29	897	35.5	28.5	27.7	23.7	17.5	13.4	11.8
28	853	34.3	27.5	26.7	22.8	17.0	13.0	11.4
27 (1956)	811	33.0	26.5	25.6	21.8	16.2	12.5	11.0
26 (1950)	771	32.1	25.5	24.6	20.9	15.5	12.2	10.7
25	733	30.7	24.2	23.2	19.7	14.6	11.7	10.3
24	697	29.7	23.0	22.2	19.0	14.1	11.4	10.2
23	662	29.0	22.3	21.4	18.4	13.6	11.2	10.0
22	628	28.1	21.4	20.3	17.2	13.0	10.9	9.7
21	595	27.2	20.7	19.5	16.4	12.6	10.6	9.6
20 (1954)	564	26.2	19.8	18.6	15.5	12.1	10.2	9.4
19	534	25.5	19.2	18.0	15.0	11.8	10.0	9.3
18	501	24.4	18.3	17.2	14.3	11.4	9.8	9.1
17	479	23.4	17.4	16.4	13.7	11.0	9.6	8.9
16	452	22.4	16.5	15.5	13.0	10.5	9.3	8.7

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records.

LOWER COLUMBIA WATERSHEDS

Lower Columbia Watersheds



"The Conservation of Water begins with the Snow Survey"

Area 8

WATER SUPPLY OUTLOOK
WILLAMETTE WATERSHEDS
OREGON

as of
JANUARY 1, 1966

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

With threats of immediate floods now lessened, most Willamette Valley water users can be really happy with the improved water supply outlook for next spring and summer which is due to the excessive rain and snow recently received. Reservoir operations are normal and soils are quite wet at median and low elevations.

SNOW COVER

Water content of the mountain snowpack, according to the pre-January snow surveys, was 90 percent of the 15-year average (1948-62) but only 52 percent of the pack one year ago. Storms since January 1 have brought very heavy increases in the snowpack.

Snow at low elevations (below 4500 feet) is now much deeper than average and can contribute heavily to streamflow if heavy rains and warm temperatures should occur continuously for several days.

SOIL MOISTURE

Low elevationssoils are now very wet, even saturated in many places. Soils in the upper watersheds under the snowpack still have some frost in the top inches and are slightly drier than average.

RESERVOIR STORAGE

Reservoirs in Willamette Basin caught a great deal of water at the lower elevations during recent storms while reservoirs higher up on tributaries picked up very little water. All reservoirs will be drawn down to minimum amounts as fast as downstream flow conditions permit.

STREAMFLOW

Willamette streams are expected to have near average flows next spring and summer provided snow accumulation and temperature continue at the average rate for the balance of the winter.

Preliminary data from the U. S. Geological Survey indicate flow of the Willamette Middle Fork was only 29 percent of the 15-year average (1948-62) in December and has been only 36 percent average since October 1, 1965.

Report prepared by
W.T. FROST AND BOB L. AHALEY
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
1218 S.W. WASHINGTON ST.
PORTLAND, OREGON 97205

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Calapooya Clackamas McKenzie Molalla Santiam, North Santiam, South Willamette, Coast Fork Willamette Middle Fork	Forecasts begin in the February 1 report which will reach you about February 10, 1966.	

RESERVOIR STORAGE (1,000 Ac. Ft.) January 1, 1966

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Cottage Grove	30.0*	0.2	14.6	1.3
Cougar	155.2*	0.0	115.8	- -
Detroit	299.9*	0.0	209.7	38.0[m]
Dorena	70.5*	1.0	52.4	6.5[m]
Fern Ridge	94.2*	24.8	85.2	8.7
Hills Creek	200.0*	0.0	152.3	- -
Lookout Point	337.2*	0.2	256.6	63.3
Timothy Lake	61.7	50.2	61.1	40.2

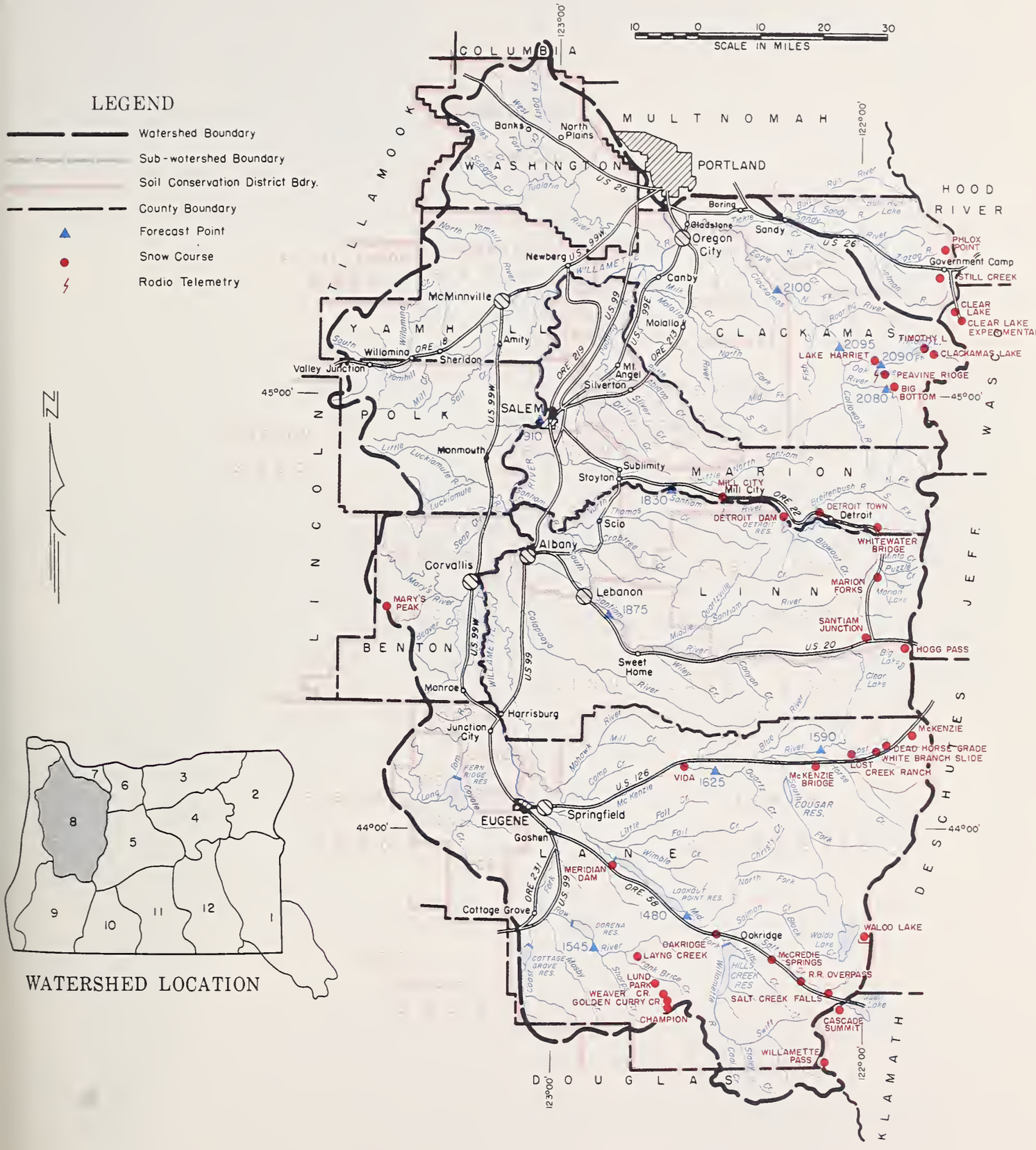
*Multiple purpose reservoir--space reserved primarily for flood runoff.

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of January 1, 1966

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[i]
NO.	NAME				
2080	Clackamas at Big Bottom	c	April-July	150	
		c	April-Sept.	184	
2100	Clackamas at Estacada	c	April-July	770	
		c	April-Sept.	890	
2095	Clackamas above Three Lynx	c	April-July	584	
		c	April-Sept.	683	
1590	McKenzie at McKenzie Bridge	c	April-July	502	
		c	April-Sept.	658	
1625	McKenzie near Vida	c	April-July	1144	
		c	April-Sept.	1392	
2090	Oak Grove Fork above Power Intake	c	April-July	147	
		c	April-Sept.	190	
1545	Row near Dorena	c	April-July	108	
		c	April-Sept.	112	
1830	Santiam, North at Mehama[d]	c	April-July	884	
		c	April-Sept.	991	
1875	Santiam, South at Waterloo	c	April-July	637	
		c	April-Sept.	675	
1840	Willamette, Mid. Fk. blw. N. Fk. nr. Oakridge[d]	c	April-July	863	
		c	April-Sept.	968	
1910	Willamette at Salem[d]	c	April-July	5040	
		c	April-Sept.	5566	

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

WILLAMETTE WATERSHEDS

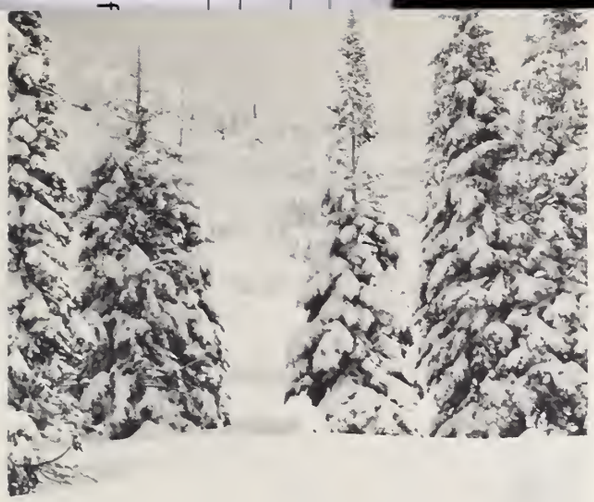


WATERSHED LOCATION

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
					WATER CONTENT (Inches)	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	LAST YEAR	1948-62 AVERAGE
Big Bottom	2118	12/28	12	2.0	- -	1.9[h]
Cascade Summit	4880	12/30	43	7.8	20.2	13.2[h]
Champion	4500	12/29	74	14.7	- -	9.3[h]
Clackamas Lake	3400	[c]				
Clear Lake	3500	12/29	17	3.0	6.2	3.4[h]
Clear Lake (Experimental)	3500	12/29	27	4.9	8.9	- -
Dead Horse Grade	3800	Not surveyed				
Detroit Town	1610	12/30	22	4.7	3.8	0.3[h]
Detroit Dam	1580	12/30	16	2.5	2.2	0.3[h]
Golden Curry Creek	3136	12/29	32	6.0	- -	3.2[h]
Hogg Pass	4755	12/30	73	14.1	25.4	16.6
Lake Harriet	2045	Not surveyed				
Layng Creek	1200	12/29	0	0.0	1.0	0.0[m]
Lost Creek Ranch	1956	Not surveyed				
Lund Park	1740	12/29	T	T	- -	0.8[m]
Marion Forks	2730	12/30	35	5.5	- -	5.5
Marys Peak	3620	[c]				
McCredie Springs	2120	12/30	11	1.5	- -	0.3[h]
McKenzie	4800	Not surveyed				
McKenzie Bridge	1372	Not surveyed				
Meridian Dam	750	12/30	0	0.0	- -	0.0[h]
Mill City	826	[c]				
Oakridge	1310	12/30	0	0.0	- -	T[h]
Peavine Ridge	3500	12/28	19	3.2	- -	7.1
Phlox Point	5600	12/29	63	14.0	28.2	27.2
Railroad Overpass	2750	12/30	18	3.2	- -	1.0[h]
Salt Creek Falls	4000	12/30	32	4.7	10.8	6.0[h]
Santiam Junction	3990	12/30	49	9.2	- -	9.8
Still Creek	3700	12/29	30	5.1	10.0	10.8
Timothy Lake	3295	Not surveyed				
Vida	800	Not surveyed				
Waldo Lake	5500	[c]				
Weaver Creek	2440	12/29	11	2.8	- -	0.3[h]
White Branch Slide	2800	Not surveyed				
Whitewater Bridge	2175	12/30	20	3.9	- -	2.7[h]
Willamette Pass	5600	[c]				

"The Conservation of Water begins with the Snow Survey"



WATER SUPPLY OUTLOOK
ROGUE, UMPQUA, WATERSHEDS
OREGON

as of
JANUARY 1, 1966

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

With threats of immediate flood now lessened, most Southwestern Oregon water users can be real happy with the improved water supply outloak far next spring and summer which is due to the excessive rain and snow recently received. Stored water supplies are excellent.

SNOW COVER

Water content of the mountain snowpack, according to the pre-January snow surveys, was 84 percent of the 15-year (1948-62) average on the Umpqua and 74 percent average on the Rogue. Subsequent storms have greatly increased the snowpacks.

Snow at law elevations (below 4500 feet) is now much deeper than average and can contribute heavily to streamflow if heavy rains and warm temperatures should occur continuously for several days.

SOIL MOISTURE

Moisture in watershed sails under the snowpack is about average and will require very little priming before runoff from snowmelt.

RESERVOIR STORAGE

Stored water supplies in reservoirs of the Medford and Rogue River Valley Irrigation Districts are 128 percent of the average and total about 16,000 acre feet compared with 21,400 acre feet a year ago when flaods provided much extra water.

Water stored in reservoirs of the Talent Irrigation District is 121 percent of the average and totals 69,200 acre feet compared with 104,000 acre feet a year ago.

STREAMFLOW

Spring and summer streamflow in the Umpqua and Rague basins is expected to be only slightly belaw average pravided snow accumulation continues at the average rate for the balance of the winter. Lands served from stored water supplies will have a very gaad season.

Preliminary data indicate the flow of the Rogue River at Raygold* was only 39 percent of the 15-year average (1948-62) in December and has been only 54 percent average since October 1, 1965.

* Preliminary data from Pacific Power and Light Company.

Report prepared by
W.T. FROST AND BOB L. WHALEY
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
1218 S.W. WASHINGTON ST.
PORTLAND, OREGON 97205

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Althouse Creek Applegate River, Big Applegate River, Little Ashland Creek Butte Creek, Little Butte Creek, Big Cow Creek Deer Creek Elk Creek Emigrant Creek (abv. Res.) Evans Creek Gold Hill Irrigation Dist. Grants Pass Irrig. Dist. Grave Creek Illinois River, East Fork Illinois River, West Fork Jump-off Joe Creek Neil Creek Red Blanket Creek Rogue River Sucker Creek Table Rock Irrig. Dist. Thompson Creek Wagner Creek Williams Creek	Forecasts begin in the February 1 report which will reach you about February 10, 1966.	

RESERVOIR STORAGE (1,000 Ac. Ft.) January 1, 1966

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Emigrant Gap	39.0	14.5	28.0	15.7*
Fish Lake	7.8	7.2	8.0	4.7
Fourmile Lake	16.1	8.9	13.4	7.9
Howard Prairie	60.0	42.5	60.6	- -
Hyatt Prairie	16.1	12.2	15.5	6.4

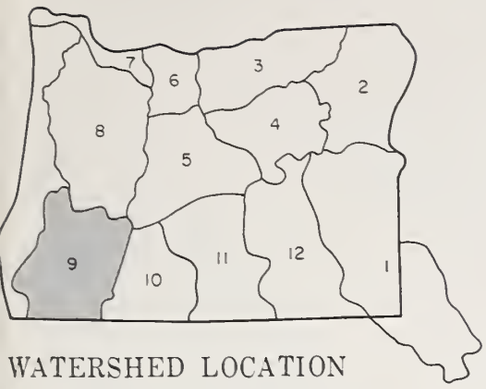
*Average for years of record after reconstruction.

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of January 1, 1966

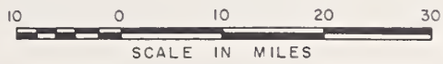
FORECAST POINT NO.	FORECAST POINT NAME	FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[i]
3620	Applegate near Copper	c	April-Sept.	142	
3145	Clearwater above Trap Creek[d]	c	April-Sept.	75	
5045	Fourmile Lake net Inflow[d]	c	Feb.-Sept.	7.0	
		c	April-Sept.	6.6	
5140	Hyatt Reservoir net Inflow[d]	c	April-Sept.	6.4	
3770	Illinois River at Kerby	c	March-July	348	
		c	April-Sept.	212	
3425	Little Butte, N. Fk. at Fish Lake nr. Lake Cr.[d]	c	April-Sept.	16.0	
3415	Little Butte, S. Fork near Lake Creek	c	April-July	38	
	Note: Minimum flow will drop to 100 c.f.s. by c				
3280	Rogue above Prospect	c	April-July	295	
		c	April-Sept.	355	
3320	Rogue, South Fork near Prospect[d]	c	April-July	70	
		c	April-Sept.	82	
3350	Rogue below South Fork	c	April-July	611	
		c	April-Sept.	754	
3590	Rogue at Raygold near Central Point	c	April-July	837	
		c	April-Sept.	1001	
3615	Rogue at Grants Pass	c	April-Sept.	993	
3135	Umpqua, No. blw. Lemolo Res. nr. Toketee Falls[d]	c	April-Sept.	186	

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

ROGUE, UMPQUA WATERSHEDS



WATERSHED LOCATION



LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry
- County Boundary
- ▲ Forecast Point
- ● Snow Course
- ⊔ Precipitation Gage

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
					WATER CONTENT (Inches)	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	LAST YEAR	1948-62 AVERAGE
Althouse	4530	[c]				
Annie Spring	6018	12/29	57	11.8	26.5	16.6
Beaver Dam Creek	5100	Not surveyed				
Big Red Mountain	6500	[c]				
Billie Creek Divide	5300	12/28	34	5.6	9.9	9.6[h]
Champion	4500	12/29	74	14.7	- -	9.3[h]
Cold Springs Camp	6100	[c]				
Deadwood Junction	4600	Not surveyed				
Diamond Crater Summit	5800	12/20	14	4.5	27.3	- -
Diamond Lake	5315	12/20	5	1.6	16.5	10.0
Eden Valley Summit	2390	Not surveyed				
Fish Lake	4865	[c]				
Fourmile Lake	6000	[c]				
Grayback Peak	6000	[c]				
Howard Prairie	4500	12/29	28	4.9	6.1	- -
Hyatt Prairie Reservoir	4900	12/29	24	4.5	6.3	3.7[h]
King Mountain #1	4800	Not surveyed				
King Mountain #2	3646	Not surveyed				
King Mountain #3	2550	Not surveyed				
King Mountain #4	1779	Not surveyed				
Little Red Mountain	6500	[c]				
North Umpqua	4215	Not surveyed				
Page Mountain	4045	[c]				
Park Headquarters	6450	12/30	74	16.8	43.7	22.2
Red Butte #1	4560	Not surveyed				
Red Butte #2	4000	Not surveyed				
Red Butte #3	3500	Not surveyed				
Red Butte #4	3000	Not surveyed				
Red Butte #5	2500	Not surveyed				
Red Butte #6	2000	Not surveyed				
Seven Lakes #1	6800	[c]				
Seven Lakes #2	6200	[c]				
Silver Burn	3720	Not surveyed				
Siskiyou Summit	4630	Not surveyed				
South Fork Canal	3500	Not surveyed				
Trap Creek	3800	[c]				
Whaleback	5140	[c]				
Windigo Pass	5800	[c]				

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
KLAMATH WATERSHEDS
OREGON

as of

JANUARY 1, 1966

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

Klamath Basin farmers, ranchers and other water users can expect good to excellent water supplies in the spring and summer of 1966. Unusually light mountain snowpacks have increased considerably in the recent storms. Stored water supplies are excellent because of heavy carryover from last year.

SNOW COVER

Water content of the mountain snowpack was about 76 percent of the 15-year average (1948-62) at the end of December and only 47 percent of the 1965 pack. Recent storms have improved this situation.

SOIL MOISTURE

Watershed soils under the snowpack contain some frost in the top several inches but soil moisture is about average for this date.

RESERVOIR STORAGE

Water stored in Upper Klamath Lake is now 275,500 acre feet compared with an average storage of 328,400 acre feet. Last year, due to floods, this reservoir held 621,000 acre feet on January 1.

Gerber reservoir contains 50,880 acre feet compared with an average of 26,400 acre feet and a total of 78,000 acre feet after the floods a year ago.

Clear Lake now holds an estimated 217,000 acre feet compared with 190,000 acre feet last year and an average figure of 175,700 acre feet.

STREAMFLOW

Streamflow near average is expected in Klamath Basin next spring and summer and water supplies should be good if snow continues to accumulate in near normal amounts during the balance of the winter.

Inflow to Upper Klamath Lake* was 86 percent of the 15-year average (1948-62) in December and has been 100 percent average since October 1, 1965.

* Preliminary data furnished by Pacific Power & Light Co., Medford, Oregon.

Report prepared by
W.T. FROST AND BOB L. WHALEY
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
1218 S.W. WASHINGTON ST.
PORTLAND, OREGON 97205

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Ft. Klamath Valley Lost River (Clear Lake) Lost River (Gerber) Lost River (Willow Res.) Sprague River Upper Klamath Lake Williamson River	Forecasts begin in the February 1 report which will reach you about February 10, 1966.	

RESERVOIR STORAGE (1,000 Ac. Ft.) January 1, 1966

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Clear Lake	440.2	217.0	190.0	175.7
Gerber	94.0	50.9	78.0	26.4[m]
Upper Klamath Lake	584.0	275.5	621.0	328.4

SOIL MOISTURE

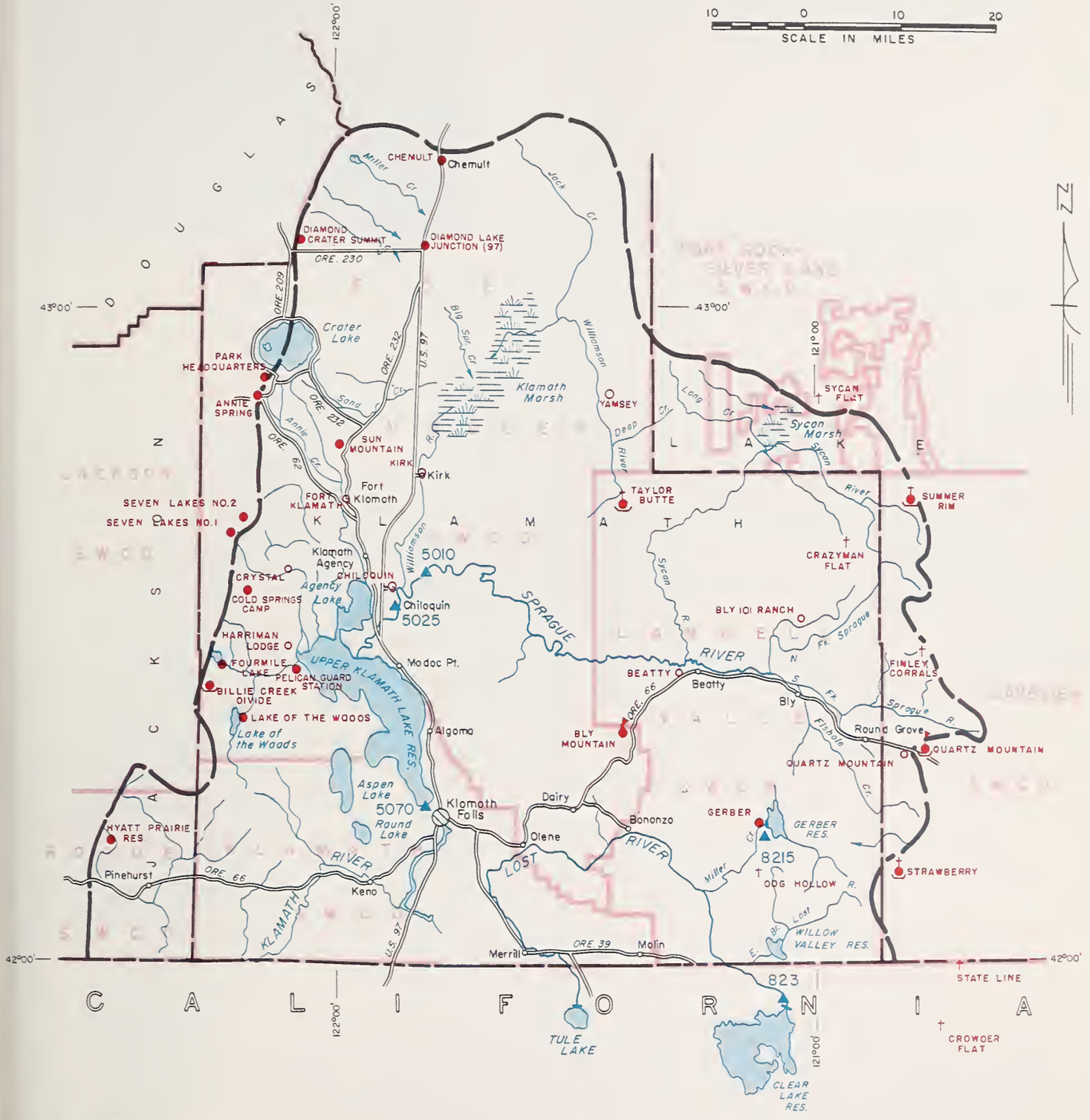
STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Bly Mountain	5090	42	14.0	[b]			

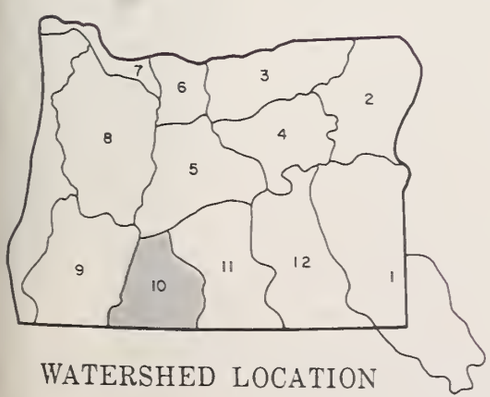
STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of January 1, 1966

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[i]
NO.	NAME				
923	Clear Lake Reservoir Inflow[k]	[c]	Feb.-June	98	
		[c]	April-Sept.	48	
8215	Gerber Reservoir Inflow[k]	[c]	Feb.-June	48	
		[c]	April-Sept.	23	
5010	Sprague near Chiloquin	[c]	Feb.-Sept.	390	
		[c]	April-Sept.	289	
5070	Upper Klamath Lake net Inflow[d k]	[c]	Feb.-Sept.	1002	
		[c]	April-Sept.	639	
5025	Williamson below Sprague River	[c]	Feb.-Sept.	683	
		[c]	April-Sept.	490	

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

KLAMATH WATERSHEDS





WATERSHED LOCATION

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry
- County Boundary
- Forecast Point
- Snow Course
- Aerial Snow Depth Gage
- COPCO Snow Station
- Soil Moisture Station
- Precipitation Gage

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
					WATER CONTENT (Inches)	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	LAST YEAR	1948-62 AVERAGE
Annie Spring	6018	12/29	57	11.8	26.5	16.6
Beatty (PP&L)	4300	b				
Billie Creek Divide	5300	12/28	34	5.6	9.9	9.6[h]
Bly Mountain	5090	Not surveyed				
Bly 101 Ranch (PP&L)	4800	b				
Chemult	4760	12/29	27	5.2	4.3	4.8
Chiloquin (PP&L)	4187	b				
Cold Springs Camp	6100	c				
Crazyman Flat[e]	6100	c				
Crowder Flat[e] (Calif.)	5200	c				
Crystal (PP&L)	4200	b				
Diamond-Crater Summit	5800	12/20	14	4.5	27.3	- -
Diamond Lake Junction (97)	4600	12/20	4	1.2	2.8	- -
Dog Hollow[e]	4900	c				
Finley Corrals[e]	6000	c				
Fort Klamath (PP&L)	4150	12/31	12	2.1[j]	1.1	1.5
Fourmile Lake	6000	c				
Gerber	4850	1/3	6	1.1[j]	- -	1.6[h]
Harriman (PP&L)	4200	12/31	19	2.7[j]	0.8	2.0
Hyatt Prairie Reservoir	4900	12/29	24	4.5	6.3	3.7[h]
Kirk (PP&L)	4533	b				
Lake of the Woods	4960	12/28	25	3.6	- -	5.7
Park Headquarters	6450	12/30	74	16.8	43.7	22.2
Pelican Guard Station	4150	12/28	15	2.5	- -	- -
Quartz Mountain	5320	12/30	18	3.5	2.5	3.0[h]
Quartz Mountain (PP&L)	5504	12/30	20	3.4	2.6	3.2[m]
Seven Lakes #1	6800	c				
Seven Lakes #2	6200	c				
State Line[e] (Calif.)	5750	c				
Strawberry	5760	Not surveyed				
Summer Rim	7200	c				
Sun Mountain	5350	12/20	15	3.9	13.6	10.4
Sycan Flat[e]	5500	c				
Taylor Butte	5100	12/22	7	1.8	0.6	2.2[m]
Yamsey (PP&L)	4600	b				

Area 11

WATER SUPPLY OUTLOOK
LAKE COUNTY, GOOSE LAKE WATERSHEDS
OREGON

as of

JANUARY 1, 1966

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

Farmers, ranchers and other water users in Lake County can expect good to excellent water supplies in the spring and summer of 1966. Measurements of the mountain snowpack showed about 106 percent of average as of the end of December - the best snow cover in the state. Stored water supplies are excellent and watershed soils have about average moisture in the top four feet.

SNOW COVER

Water content of the mountain snowpack has increased beyond 106 percent of the 15-year average (1948-62) as a result of recent storms.

SOIL MOISTURE

In some areas a small amount of frost remains in the top few inches of the soil under the snowpack. Moisture in the soil is about average for this date.

RESERVOIR STORAGE

Drews Valley reservoir held 39,900 acre feet on December 6, 1965 and has probably had some inflow since that date. A year ago, because of floods, this important reservoir was full and spilling. The average storage on January 1 is 29,400 acre feet.

Cottonwood reservoir holds about 900 acre feet, about average for this date. A year ago it held 7,100 acre feet.

STREAMFLOW

Spring and summer flow of Lake County streams is expected to be near average if snow continues to accumulate in near normal amounts during the balance of the winter. Lakeview Water Users Association is already assured of a good water supply for 1966.

Report prepared by
W.T. FROST AND BOB L. WHALEY
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
1218 S.W. WASHINGTON ST.
PORTLAND, OREGON 97205

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Chewaucan Crooked Deep Creek Dry Creek East Side Goose Lake Guano Lake Honey Creek Lakeview Water Users Assn. Rock Creek (Hart Mtn.) Silver-Buck Creeks Summer Lake Thomas Creek Twentymile Creek Warner Lakes	Forecasts begin in the February 1 report which will reach you about February 10, 1966.	

RESERVOIR STORAGE (1,000 Ac. Ft.) January 1, 1966

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Cottonwood	8.7	0.9*	7.1	0.9**
Drews	63.0	39.9*	68.1	29.4

*Dec. 6, 1965

**Average for years of record after reconstruction.

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of January 1, 1966

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[i]
NO.	NAME				
3840	Chewaucan near Paisley	c	March-June	89	
3715	Deep above Adel	c	March-June	78	
3385	Drews Reservoir net Inflow[d]	c	March-July	47	
3785	Honey Creek near Plush	c	March-June	18.0	
3660	Twentymile near Adel	c	March-June	28	

SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Camas Creek	5720	42	14.5	12-27-65	11.4	13.2	11.9
Quartz Mountain	5320	48	15.3	12-30-65	7.2	15.0	8.2

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches) LAST YEAR	WATER CONTENT (Inches) 1948-62 AVERAGE
Bald Mountain (Nev.)	6720	c				
Bear Flat Meadow[e]	5900	c				
Camas Creek	5720	12/27	15	2.4	5.6	- -
Cox Flat[e]	5750	c				
Crane Mountain[e]	6020	c				
Crowder Flat[e] (Calif.)	5200	c				
Dismal Swamp[e] (Calif.)	7000	c				
Finley Corrals[e]	6000	c				
Hart Mountain[e]	6350	c				
Little Bally Mountain[e] (Nev.)	6600	c				
Mill Creek	6200	c				
Patton Meadows[e]	6800	c				
Quartz Mountain (PP&L)	5504	12/30	20	3.4	2.6	3.2[m]
Quartz Mountain	5320	12/30	18	3.5	2.5	3.0[h]
Sherman Valley[e]	6600	c				
Silver Creek	4900	12/30	14	1.7	0.8	1.9[h]
State Line[e] (Calif.)	5750	c				
Strawberry	5760	Not surveyed				
Summer Rim	7200	c				
Sycan Flat[e]	5500	c				

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

LAKE COUNTY, GOOSE LAKE WATERSHEDS

WATERSHED LOCATION

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry
- County Boundary
- Forecast Point
- Snow Course
- Aeriol Snow Depth Gage
- COPCO Snow Station
- Soil Moisture Station
- Precipitation Gage

"The Conservation of Water begins with the Snow Survey"

Area 12

WATER SUPPLY OUTLOOK
HARNEY BASIN WATERSHEDS
OREGON

as of

JANUARY 1, 1966

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

Ranchers and other water users in Harney Basin can expect spring and summer water supplies in 1966 to be somewhat below the average unless snow accumulates at a faster than normal rate during the balance of the season.

SNOW COVER

Water content of the mountain snowpack at the end of December was only 52 percent of the 15-year average (1948-62) and 34 percent on this date a year ago. Storms since January 1 have increased the snowpack significantly.

SOIL MOISTURE

Moisture in the soil mantle underlying the snowpack is about average for this date but is much less than the 93 percent of capacity recorded a year ago. The soils will absorb some of the snow-melt water when spring runoff begins.

RESERVOIR STORAGE

Moon and Chickahominy reservoirs will not hold much water until a thaw starts the snow melting above these facilities.

STREAMFLOW

Streamflow will be less than average next spring unless better than average amounts of snow accumulate between now and the spring breakup.

Report prepared by
W.T. FROST AND BOB L. WHALEY
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
1218 S.W. WASHINGTON ST.
PORTLAND, OREGON 97205

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Catlow Valley Cow Creek Donner und Blitzen River Mill-Coffeepot Creeks Rattlesnake Creek Silver Creek Silvies River Soldier-Prather Creek Trout Creek Whitehorse Creek	Forecasts begin in the February 1 report which will reach you about February 10, 1966.	

RESERVOIR STORAGE (1,000 Ac. Ft.) January 1, 1966

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of January 1, 1966

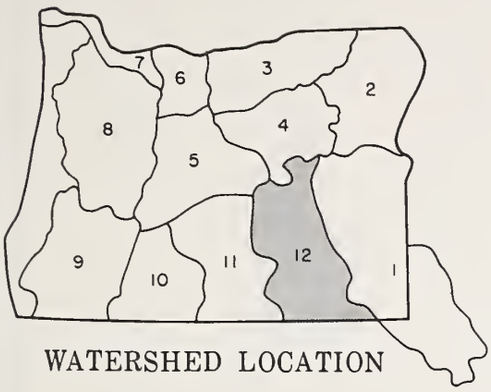
FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[i]
NO.	NAME				
3960	Donner und Blitzen near Frenchglen	*c*	March-June	59	
		c	April-Sept.	62	
4030	Silver near Riley	*c*	April-July	22	
3935	Silvies River near Burns	*c*	March-June	116	
		c	April-Sept.	99	
4065	Trout Creek near Denio	*c*	March-July	8.7	
		c	April-Sept.	8.4	

SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Blue Mountain Springs	5900	42	16.9	12-28-65	6.6	13.1	7.2
Fish Creek	7900	48	15.0	*c*			
Folly Farm	4450	30	12.5	*c*			
Silvies	6900	48	16.4	*c*			
Snow Mountain	6300	48	16.7	12-28-65	11.6	16.3	- -
Starr Ridge	5150	36	10.6	12-28-65	7.5	10.3	7.0
Stinking Water Summit	4800	48	21.9	11-19-65	21.4	21.3	20.8
Willow-Bald	5000	24	6.6	12-28-65	3.4	6.4	5.0

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

HARNEY BASIN WATERSHEDS



WATERSHED LOCATION

10 0 10 20 30
SCALE IN MILES

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- Forecast Point
- Snow Course
- † Aerial Snow Depth Gage
- Soil Moisture Station
- Precipitation Gage

SNOW

SNOW COURSE NAME	ELEVATION	CURRENT INFORMATION: DATE OF SURVEY	CURRENT INFORMATION: SNOW DEPTH (Inches)	CURRENT INFORMATION: WATER CONTENT (Inches)	PAST RECORD: WATER CONTENT (Inches) LAST YEAR	PAST RECORD: WATER CONTENT (Inches) 1948-62 AVERAGE
Blue Mountain Springs	5900	12/28	15	2.8	11.6	6.0[h]
Buck Pasture[e]	5700	c				
Buckskin Lake[e]	5200	c				
Call Meadows[e]	5340	c				
Crow Camp[e]	5500	c				
Delintment Lake	5600	c				
Denio Creek[e]	6000	c				
Disaster Peak (Nev.)	6500	c				
Emigrant Butte	5000	c				
Fish Creek	7900	c				
Hart Mountain[e]	6350	c				
Idlewild Camp	5200	12/29	11	1.2	1.9	2.1
Izee Summit	5293	12/27	12	1.8	4.7	3.1[h]
Lake Creek	5120	12/28	11	2.1	- -	- -
Oregon Canyon[e]	6950	c				
Rock Spring	5100	12/29	9	0.9	2.2	2.1
Silvies	6900	c				
Snow Mountain	6300	12/28	13	2.7	9.9	- -
Starr Ridge	5150	12/27	10	1.2	4.2	2.4[h]
Stinking Water	4800	12/28	7	1.3	T	2.0[h]
Trout Creek[e]	7800	c				
"V" Lake[e]	6600	c				

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.

OWYHEE, MALHEUR WATERSHEDS (1)

Owyhee River

NUMBER	NAME	SEC.	TWP.	RGE.	ELEV.
[illegible]	Antelope Ridge (Ida)	20	8S	1E	5900
[illegible]	Battle Creek (Ida)	10	11S	1E	5700
[illegible]	Bear Creek (Nev)	31	40N	58E	7800
[illegible]	Big Bend (Nev)	30	45N	56E	6700
[illegible]	Blue Mtn Pass	-	38S	42E	5290
[illegible]	Buckskin, Lower (Nev)	25	45N	39E	6700
[illegible]	Buckskin, Upper (Nev)	11	45N	39E	7200
[illegible]	Bull Basin (Ida)	29	12S	5W	5600
[illegible]	Disaster Peak (Nev)	8	47N	34E	6500
[illegible]	Fish Creek	-	33S	33E	7900
[illegible]	Folly Farm Summit	8	30S	38E	4450
[illegible]	Fox Creek (Nev)	33	46N	58E	6800
[illegible]	Fry Canyon (Nev)	31	43N	54E	6700
[illegible]	Gold Creek (Nev)	31	45N	56E	6600
[illegible]	Granite Peak (Nev)	22	44N	39E	7800
[illegible]	Hyde Pasture (Ida)	31	8S	2W	5800
[illegible]	Jack Creek, Lower (Nev)	18	42N	53E	6800
[illegible]	Jack Creek, Upper (Nev)	9	42N	53E	7250
[illegible]	Jack Peak (Nev)	28	42N	53E	8420
[illegible]	Jordan Valley	9	30S	46E	4390
[illegible]	Lookout Butte	2	40S	47E	5650
[illegible]	Louse Canyon	27	40S	41E	6440
[illegible]	Martin Creek (Nev)	18	44N	40E	6700
[illegible]	Midas (Nev)	18	39N	46E	7200
[illegible]	Mud Flat (Ida)	32	9S	2W	5500
[illegible]	Oregon Canyon	8	40S	40E	6950
[illegible]	Quinn Ridge (Nev)	9	47N	41E	6300
16G11a*	Red Canyon (Ida)	32	11S	4W	6500
15H6MP	Rodeo Flat (Nev)	36	43N	53E	6800
15H3A	76 Creek (Nev)	6	44N	58E	7100
16F3AP*	Silver City (Ida)	6	5S	3W	6400
18G1MA	Silvies	35	32S	32¼E	6900
16G1	South Mountain No.2 (Ida)	10	8S	5W	6340
16F6a	Succor Creek (Ida)	25	3S	5W	6100
15H9MP	Taylor Canyon (Nev)	35	39N	53E	6200
15H5	Tremewan Ranch (Nev)	9	39N	55E	5700
16G4MA	Triangle (Ida)	25	7S	3W	5150
18G5a	Trout Creek	10	41S	38E	7800
18G7a	"V" Lake	31	35½S	32¼E	6600
16G12a	Vaught Ranch (Ida)	10	11S	1E	5950
16G13a	War Eagle (Ida)	20	5S	3W	7700

Malheur River

NUMBER	NAME	SEC.	TWP.	RGE.	ELEV.
18E14	Barney Creek	16	14S	36E	5950
18E16MP	Blue Mountain Spring	21	15S	35E	5900
18F6a	Buck Pasture	21	29S	35E	5700
18E21a	Bully Creek	10	17S	37E	5300
18F7a	Call Meadows	29	20S	33E	5340
17F2a	Cottonwood-Indian	10	19S	39E	4320
18E19M	Crane Prairie	24	16S	34E	5375
18F8a	Crow Camp	Unsurveyed			
18E20	Eldorado Pass	20	14S	38E	4600
18E26a	Flag Prairie	32	16S	36E	4750
18E18	Lake Creek	10	16S	33½E	5120
18E22a	Logan Valley	13	16S	33½E	5100
18F1	Rock Spring	23	18S	32E	5100
18F4MP	Stinking Water	33	21S	34E	4800

BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS (2)

Burnt River

NUMBER	NAME	SEC.	TWP.	RGE.	ELEV.
18E32p*	S. Fk. Willow Divide	2	16S	37E	5500
18E14	Barney Creek	16	14S	36E	5950
18E13M	Blue Mountain Summit	6	12S	36E	5098
17E1M	Dooley Mountain	32	11S	40E	5430
18E20	Eldorado Pass	20	14S	38E	4600
18E8	Gold Center	21	9S	36E	5340
18E9	Tipton	34	10S	35½E	5100

Powder River

NUMBER	NAME	SEC.	TWP.	RGE.	ELEV.
18E1	Anthony Lake	18	7S	37E	7125
18E5	Bourne	33	8S	37E	5800
17E1M	Dooley Mountain	32	11S	40E	5430
18E3	Eilertson Meadows	18	8S	38E	5400
18E8	Gold Center	21	9S	36E	5340
18E6	Goodrich Lake	4	9S	38E	6775
18E29	Intake House	5	8S	38E	4930
17D12m	Ladd Summit	5	5S	39E	3730
18E23	Little Alps	10	7S	37E	6200
18E28	Power Plant	33	7S	38E	3990
18E30	Little Antone	1	7S	37E	5000
18D10	Summit Springs	9	6S	37E	6000
17D7	Taylor Green	3	6S	42E	5740

Pine Creek

NUMBER	NAME	SEC.	TWP.	RGE.	ELEV.
17D8	Schneider Meadows	35	6S	45E	5400

Grande Ronde River

NUMBER	NAME	SEC.	TWP.	RGE.	ELEV.
17D1	Aneroid Lake No. 1	16	4S	45E	7480
17D2P	Aneroid Lake No. 2	16	4S	45E	7300
18E1	Anthony Lake	18	7S	37E	7125
17D10a	Bald Mountain	14	4S	41E	6700
18D9	Beaver Reservoir	8	5S	37E	5340
18D8	County Line	28	4S	34E	4800
18D6	Lucky Strike	28	3S	32E	5050
18D5	Meacham	24 & 25	1S	35E	4300
17D13a	Mirror Lake	34	4S	44E	8200
17D6M	Moss Spring	28	3S	41E	5850
18D7	Schoolmarm	28	4S	34E	4775
17D11a	Standley	28	2S	42E	7400
17D7	Taylor Green	3	6S	42E	5740
18D3M	Tollgate	31	4N	38E	5070
17D15a	TV Ridge	12	2S	43E	7000

Imnaha River

NUMBER	NAME	SEC.	TWP.	RGE.	ELEV.
17D1	Aneroid Lake No. 1	16	4S	45E	7480
17D2P	Aneroid Lake No. 2	16	4S	45E	7000
17D14a	Big Sheep	33	4S	46E	6200

UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS (3)

Umatilla River

NUMBER	NAME	SEC.	TWP.	RGE.	ELEV.
19D2	Arbuckle Mountain	33	4S	29E	5400
18D14m	Athena-Weston Summit	21	4N	35E	1700
18D12M	Battle Mountain Summit	29	3S	31E	4340
18D4M	Emigrant Springs	29	1N	35E	3925
18D6	Lucky Strike	28	3S	32E	5050
18D5	Meacham	24 & 25	1S	35E	4300
18D3M	Tollgate	32	4N	38E	5070
18D13	Walla Walla Diversion	22	6N	38E	2400

Walla Walla River

NUMBER	NAME	SEC.	TWP.	RGE.	ELEV.
18D16	Blue Mountain Camp	35	4N	37E	4300
18D3M	Tollgate	32	4N	38E	5070
18D17	Weston Mountain	25	4N	35E	2700

Willow Creek

NUMBER	NAME	SEC.	TWP.	RGE.	ELEV.
19D2	Arbuckle Mountain	33	4S	29E	5400
18E1	Anthony Lake	18	7S	37E	7125

UPPER JOHN DAY WATERSHEDS (4)

Upper John Day River

NUMBER	NAME	SEC.	TWP.	RGE.	ELEV.
19D2	Arbuckle Mountain	33	4S	29E	5400
18D12M	Battle Mountain Summit	29	3S	31E	4340
19E2M	Beech Creek Summit	4	12S	30E	4800
18E16MP	Blue Mountain Spring	21	15S	35E	5900
18E13M	Blue Mountain Summit	6	12S	36E	5098
19E3MP	Derr	14	13S	23E	5670
18E27a	East Fork Canyon	15	15S	32E	5700
18E8	Gold Center	21	9S	36E	5340
18E24a	Indian Cr. Butte	5	15S	33E	6550
19E9P	Izee Summit	28	16S	29E	5293
18D6	Lucky Strike	28	3S	32E	5050
20E1MP	Marks Creek	25	12S	19E	4540
20E2	Ochoco Meadows	21	13S	20E	5200
18E7	Olive Lake	14	9S	34E	6000
18D7	Schoolmarm	28	4S	34E	4775
19F1M	Snow Mountain	1	19S	26E	6300
19E7M	Starr Ridge	20	15S	31E	5150
18E9	Tipton	34	10S	35½E	5100
18E25MP	Williams Ranch	20	15S	32E	4500

UPPER DESCHUTES, CROOKED WATERSHEDS (5)

Upper Deschutes River

NUMBER	NAME	SEC.	TWP.	RGE.	ELEV.
21E11	Black Pine Spring	14	16S	9E	4600
21F8	Caldwell Ranch	30	21S	8E	4400
22F3	Cascade Summit	7	23S	6E	4880
21F7	Charlton Lake	23	21S	6E	5750
21F11	Chemult	21	27S	8E	4760
21F20P	Deer Creek	25	20S	7E	4554
21F14	Fire Road	36	21S	11E	5050
21E6	Hogg Pass	24	13S	7½E	4755
21F4	Hungry Flat	30	18S	11E	4400
21F6	Irish-Taylor	25	20S	6E	5500
21F17	Mowich	29	25S	25E	4700
21F10	New Crescent Lake	11	24S	6E	4800
21F19	New Dutchman Flat #2	21	18S	9E	6400
21F13	Paulina Lake	34	21S	12E	6330
21F15	Paulina Prairie	28	21S	11E	4285
21F3	Tangent	28	18S	10E	5400
21E15	Three Creeks Butte	27	16S	9E	5200
21E13	Three Creek Meadows	34	16S	9E	5650
22F2	Waldo Lake	15	21S	6E	5500
22F14	Willamette Pass	33	24S	5½E	5600
22F15	Windigo Pass	32	25S	6E	5800

Crooked River

NUMBER	NAME	SEC.	TWP.	RGE.	ELEV.
19E3MP	Derr	14	13S	23E	5670
20E1MP	Marks Creek	25	12S	19E	4540
20E2	Ochoco Meadows	21	13S	20E	5200
19F1M	Snow Mountain	1	19S	26E	6300
19E4	Tamarack	8	15S	25E	4800

HOOD, MILE CREEKS LOWER DESCHUTES WATERSHEDS (6)

Hood River

NUMBER	NAME	SEC.	TWP.	RGE.	ELEV.
21D5	Brooks Meadows	2	2S	10E	4300
21D25M	Cooper Spur	6	2S	10E	3490
21D1	Greenpoint Reservoir	28	2N	9E	3400
21D20	Knebal Springs	31	1S	11E	3850
21D23	Parkdale	6	1S	10E	1770
21D8	Phlox Point	6	3S	9E	5600
21D4	Red Hill	20	1S	9E	4400
21D9	Still Creek	25	3S	8½E	3700
21D7	Tilly Jane	15	2S	9E	6000
21D21	Ulrich Ranch Junction	28	1S	11E	3350
21D30	Umbrella Falls	3	3S	9E	5400
21D24	Upper Valley	20	1S	10E	2530
21D28	Switchback	28	1S	9E	3255

Mile Creeks - Mosier Creek

NUMBER	NAME	SEC.	TWP.	RGE.	ELEV.
21D6	Brooks Meadows	2	2S	10E	4300
21D20	Knebal Springs	31	1S	11E	3850
21D21	Ulrich Ranch Junction	28	1S	11E	3350

Lower Deschutes River

NUMBER	NAME	SEC.	TWP.	RGE.	ELEV.
21D12	Clear Lake	29	4S	9E	3500
21D22	Clear Lake Experimental	29	4S	9E	3500
21E6	Hogg Pass	24	13S	7½E	4755

LOWER COLUMBIA WATERSHEDS (7)

Sandy River

NUMBER	NAME	SEC.	TWP.	RGE.	ELEV.
21D8	Phlox Point	6	3S	9E	5600
21D9	Still Creek	25	3S	8½E	3700

WILLAMETTE WATERSHEDS (8)

Clackamas River

NUMBER	NAME	SEC.	TWP.	RGE.	ELEV.
21D15	Big Bottom	25	6S	7E	2118
21D13	Clackamas Lake	35	5S	8½E	3400
21D12	Clear Lake	29	4S	9E	3500
21D16	Lake Harriet	4	6S	7E	2045
21D14*	Peavine Ridge	14 & 15	6S	7E	3500
21D8	Phlox Point	6	3S	9E	5600
21D9	Still Creek	25	3S	8½E	3700
21D17	Timothy Lake	26	5S	8E	3295

Santiam River

NUMBER	NAME	SEC.	TWP.	RGE.	ELEV.
22E1	Detroit (town)	1	10S	5E	1610
22E2	Detroit Dam	7	10S	5E	1580
21E6	Hogg Pass	24	13S	7½E	4755
21E4	Marion Forks	28	11S	7E	2730
22E3	Mill City	29	9S	3E	826
21E5	Santiam Junction	14	13S	7E	3990
21E3	Whitewater Bridge	28	10S	7E	2175

McKenzie River

NUMBER	NAME	SEC.	TWP.	RGE.	ELEV.
21E8	Dead Horse Grade	13	16S	7E	3800
22E4	Lost Creek Ranch	24	16S	6E	1956
21E7	McKenzie	35	15S	7½E	4800
22E5	McKenzie Bridge	13	16S	5E	1372
22E6	Vida	28	16S	2E	800
21E9	White Branch Slide	15	16S	7E	2800

Middle Fork Willamette River

NUMBER	NAME	SEC.	TWP.	RGE.	ELEV.
22F3	Cascade Summit	7	23S	6E	4880
22F6	McCredie Springs	26	21S	4E	2120
22F8	Meridian Dam	13	19S	1W	750
22F7	Oakridge	16	21S	3E	1310
22F5	Railroad Overpass	21	22S	5E	2750
22F4	Salt Creek Falls	32	22S	5½E	4000
22F2	Waldo Lake	15	21S	6E	5500
22F14	Willamette Pass	33	24S	5½E	5600

Coast Fork Willamette River

NUMBER	NAME	SEC.	TWP.	RGE.	ELEV.
22F9	Champion	12	23S	1E	4500
22F10	Golden Curry Creek	1	23S	1E	3136
22F13	Layng Creek R. S.	31	21S	1E	1200
22F12	Lund Park	22	22S	1E	1740
22F11	Weaver Creek	35	22S	1E	2440

Mary's River

NUMBER	NAME	SEC.	TWP.	RGE.	ELEV.
23E1	Mary's Peak	21	12S	7W	3620

ROGUE, UMPQUA WATERSHEDS (9)

Rogue River

NUMBER	NAME	SEC.	TWP.	RGE.	ELEV.
23G4	Althouse	17	41S	7W	4530
22G6	Annie Spring	19	31S	6E	6018
22G28	Beaver Dam Creek	1	38S	4E	5100
22G21	Big Red Mountain	31	40S	1W	6500
22G13	Billie Creek Divide	30	36S	5E	5300
22G27	Deadwood Junction	8	38S	4E	4600
22F19	Diamond-Crater Summit	34	28S	6E	5800
22G14	Fish Lake	3	37S	4E	4865
22G12	Fourmile Lake	9	36S	5E	6000
23G3	Grayback Peak	9	40S	5W	6000
22G26	Howard Prairie	32	38S	4E	4500
22G16	Hyatt Prairie Reservoir	15	39S	3E	4900
22G22	Little Red Mountain	25	40S	2W	6500
23G5	Page Mountain	8	41S	7W	4045
22G5	Park Headquarters	8	31S	6E	6450
22G10	Seven Lakes No. 1	3	34S	5E	6800
22G11	Seven Lakes No. 2	26	33S	5E	6200
22G2	Silver Burn	30	30S	4E	3720
22G20	Siskiyou Summit	17	40S	2E	4630
22G9	South Fork Canal	12	33S	3E	3500
22G1	Whaleback	3	31S	2E	5140

Umpqua River

NUMBER	NAME	SEC.	TWP.	RGE.	ELEV.
22F9	Champion	12	23S	1E	4500
22F18	Diamond Lake	29	27S	6E	5315
23G7	Eden Valley Summit	10	32S	10W	2390
22F16	North Umpqua	19	26S	6E	4215
22F23	Red Butte No. 1	36	27S	2W	4560
22F24	Red Butte No. 2	30	27S	1W	4000
22F25	Red Butte No. 3	30	27S	1W	3500
22F26	Red Butte No. 4	36	27S	1W	3000
22F27	Red Butte No. 5	20	27S	1W	2500
22F28	Red Butte No. 6	17	27S	1W	2000
22F17	Trap Creek	1	27S	4E	3800
22G1	Whaleback	3	31S	2E	5140
22F15	Windigo Pass	20	25S	6E	5800

KLAMATH WATERSHEDS (10)

Klamath River

NUMBER	NAME	SEC.	TWP.	RGE.	ELEV.
22G6	Annie Spring	19	31S	6E	6018
22G13	Billie Creek Divide	30	36S	5E	5300
21G5	Bly Mountain	15 & 22	37S	11E	5090
21F11	Chemult	21	27S	8E	4760
22G24	Gold Springs Camp	12	35S	5E	6100
20G12a	Grazyman Flat	9	34S	15E	6100
20H2a	Crowder Flat (Cal)	30	47N	11E	5200
22F19	Diamond-Crater Summit	34	28S	6E	5800
21F18	Diamond Lake Jct. (97)	1	29S	7E	4600
21G6a	Dog Hollow	1	40S	14E	4900
20G14a	Finley Corrals	11	36S	16E	6000
22G12	Fourmile Lake	9	36S	5E	6000
21G4	Gerber	12	39S	13E	4850
22G16	Hyatt Prairie Reservoir	15	39S	3E	4900
22G26	Howard Prairie	32	38S	4E	4500
22G15	Lake of the Woods	11	37S	5E	4960
22G5	Park Headquarters	8	31S	6E	6450
22G25	Pelican Guard Station	9	36S	6E	4150
20G6MP	Quartz Mountain	2	38S	16E	5320
22G10	Seven Lakes No. 1	3	34S	5E	6800
22G11	Seven Lakes No. 2	26	33S	5E	6200
20H1a	State Line (Cal)	21	48N	11E	5750
20G9AP	Strawberry	4	40S	16E	5760
20G2AP	Summer Rim	15	33S	16E	7200
21G2	Sun Mountain	22	32S	7½E	5350
20G13a	Sycan Flat	25	31S	14E	5500
21G3	Taylor Butte	22	33S	11E	5100

Pacific Power and Light Company's Snow Stations

NUMBER	NAME	SEC.	TWP.	RGE.	ELEV.
1	Beatty (PP&L)	22	36S	12E	4300
10	Bly 101 Ranch (PP&L)	22	35S	14E	4800
3	Chiloquin (PP&L)	34	34S	7E	4187
4	Crystal (PP&L)	26	34S	6E	4200
5	Fort Klamath (PP&L)	22	33S	7½E	4150
6	Kirk (PP&L)	1	33S	7E	4533
9	Quartz Mountain (PP&L)	33	37S	16E	5504
8	Harriman Lodge (PP&L)	3	36S	6E	4200
12	Yamsey (PP&L)	20	31S	11E	4600

LAKE COUNTY, GOOSE LAKE WATERSHEDS (11)

Goose Lake

NUMBER	NAME	SEC.	TWP.	RGE.	ELEV.
20G15a	Bear Flat Meadow	27	36S	19E	5900
20G8MP	Camas Creek	5	39S	21E	5720
20G11a	Cox Flat	16	37S	18E	5750
20G16a	Crane Mountain	13	40S	21E	6020
20H2a	Crowder Flat (Cal)	30	47N	11E	5200
20H3a	Dismal Swamp (Cal)	31	48N	16E	7200
20G17a	Patton Meadow	28	38S	18E	6800
20G6MP	Quartz Mountain	2	38S	16E	5320
20H1a	State Line (Cal)	21	48N	11E	5750
20G9AP	Strawberry	4	40S	16E	5760

Abert Lake

NUMBER	NAME	SEC.	TWP.	RGE.	ELEV.
20G15a	Bear Flat Meadow	27	36S	19E	5900
20G18AP	Colvin Creek	12	36S	21E	6550
20G11a	Cox Flat	16	37S	18E	5750
20G14a	Finley Corrals	11	36S	16E	6000
20G4	Mill Creek	1	34S	17E	6200
20G6MP	Quartz Mountain	2	38S	16E	5320
20G10a	Sherman Valley	15	37S	21E	6600

Summer Lake

NUMBER	NAME	SEC.	TWP.	RGE.	ELEV.
20G2AP	Summer Rim	15	33S	16E	7200

Silver Lake

NUMBER	NAME	SEC.	TWP.	RGE.	ELEV.
21F12P	Silver Creek	25 & 26	29S	13E	4900
20G13a	Sycan Flat	25	31S	14E	5500

Warner Lake

NUMBER	NAME	SEC.	TWP.	RGE.	ELEV.
20G8MP	Camas Creek	5	39S	21E	5720
20G16a	Crane Mountain	13	40S	21E	6020
20H3a	Dismal Swamp (Cal)	31	48N	22E	7000
19G1a	Hart Mountain	1	36S	25E	6350
20G10a	Sherman Valley	15	37S	21E	6600

Guano Lake

NUMBER	NAME	SEC.	TWP.	RGE.	ELEV.
19H1	Bald Mountain (Nev)	17	45N	21E	6720
19G1a	Hart Mountain	1	36S	25E	6350
19H4a	Little Bally Mt. (Nev)	8	45N	19E	6600

HARNEY BASIN WATERSHED (12)

Silvies River - Silver Creek

NUMBER	NAME	SEC.	TWP.	RGE.	ELEV.
18F7a	Call Meadows	29	20S	33E	5340
19F2	Delintment Lake	28	19S	26E	5600
19F3	Emigrant Butte	14	21S	27E	5000
18F3P	Idlewild Camp	27	20S	31E	5200
19E9P	Izee Summit	28	16S	29E	5293
18F1	Rock Spring	23	18S	32E	5100
19F1M	Snow Mountain	1	19S	26E	6300
19E7M	Starr Ridge	20	15S	31E	5150
18F4MP	Stinking Water	33	21S	34E	4800
19F4m	Willow-Bald	19	22S	29E	5000

Donner Und Blitzen River

NUMBER	NAME	SEC.	TWP.	RGE.	ELEV.
18F6a	Buck Pasture	21	29S	35E	5700
18C2MA	Fish Creek	4	33S	33E	7900
19G1a	Hart Mountain	1	36S	25E	6350
18C1MA	Silvies	35	32S	32¼E	6900
18C7a	"V" Lake	31	35¼S	32½E	6600

Trout and Whitehorse Creeks

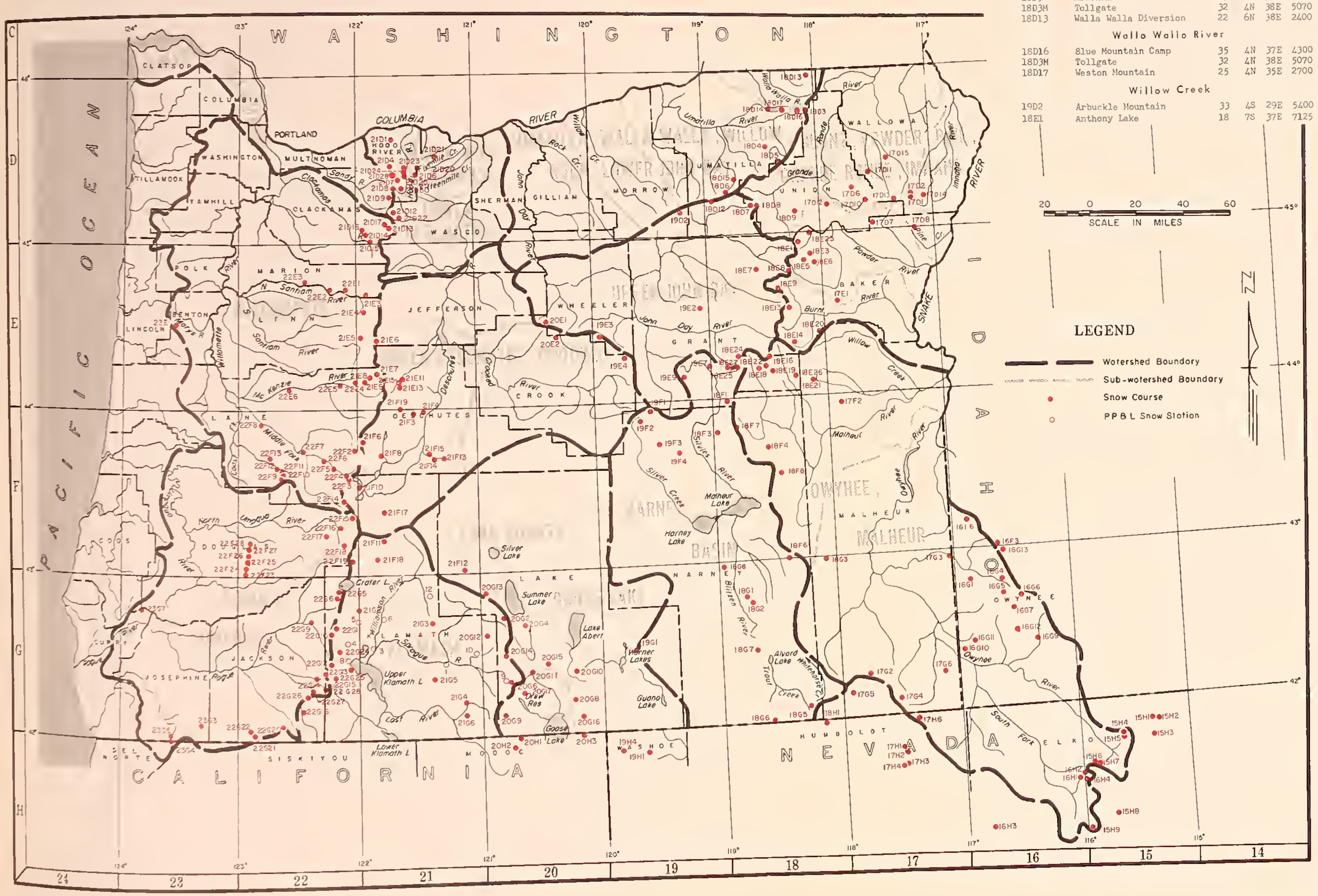
NUMBER	NAME	SEC.	TWP.	RGE.	ELEV.
18G6a	Denio Creek	14	41S	34E	6000
18H1	Disaster Peak (Nev)	8	47N	34E	6500
17G5a	Oregon Canyon	9	40S	40E	6950
18C5a	Trout Creek	10	41S	38E	7800

Harney Lake

NUMBER	NAME	SEC.	TWP.	RGE.	ELEV.
18G8	Buckskin Lake	2	30S	30E	5200

LEGEND

1902	SNOW COURSE ONLY
1902M	SNOW COURSE AND SOIL MOISTURE
1902MA	SNOW COURSE, SOIL MOISTURE AND AERIAL MARKER
1902A	SNOW COURSE AND AERIAL MARKER
1902m	SOIL MOISTURE ONLY
1902a	AERIAL MARKER ONLY
1902P	SNOW COURSE AND PRECIPITATION GAGE
1902p	PRECIPITATION GAGE ONLY
*	RADIO TELEMETRY



Map and Index to OREGON SNOW COURSES

7-S-19101-0

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE USDA-SCS PORTLAND OREG 1967 M-1874

Ha

SI

The Following Organizations Cooperate in the Oregon Snow Survey Work

STATE
- Idaho Cooperative Snow Surveys
- Nevada Cooperative Snow Surveys
- Oregon State University
- Oregon State Engineer and Corps of State Watermasters
- Oregon State Highway Engineers
- Soil and Water Conservation Districts of Oregon

COUNTY
- Douglas County Water Resources Survey

FEDERAL
- Department of Agriculture
  - Cooperative Extension Service
  - Forest Service
  - Soil Conservation Service
- Department of Commerce
  - Weather Bureau
- Department of the Interior
  - Bonneville Power Administration
  - Bureau of Land Management
  - Bureau of Reclamation
  - Fish and Wildlife Service
  - Geological Survey
  - National Park Service
- Department of National Defense
  - Corps of Army Engineers

PUBLIC UTILITIES
- Pacific Power and Light Company
- Portland General Electric Company
- California-Pacific Utilities Company

MUNICIPALITIES
- City of Baker
- City of La Grande
- City of The Dalles
- City of Walla Walla

IRRIGATION DISTRICTS
- Arnold Irrigation District
- Associated Ditch Companies
- Burnt River Irrigation District
- Central Oregon Irrigation District
- East Fork Irrigation District
- Grants Pass Irrigation District
- Hood River Irrigation District
- Jordan Valley Irrigation District
- Juniper Flat Irrigation District
- Lakeview Water Users, Incorporated
- Medford Irrigation District
- Middle Fork Irrigation District
- North Board of Control - Owyhee Project
- North Unit Irrigation District
- Ochoco Irrigation District
- Rogue River Valley Irrigation District
- South Board of Control - Owyhee Project
- Squaw Creek Irrigation District
- Talent Irrigation District
- Tumalo Project
- Vale-Oregon Irrigation District
- Warmsprings Irrigation District

PRIVATE ORGANIZATIONS
- Amalgamated Sugar Company
- The Crag Rats, Hood River, Oregon

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
1218 S.W. WASHINGTON ST.
PORTLAND, OREGON 97205

OFFICIAL BUSINESS

POSTAGE AND FEES PAID
U. S. DEPARTMENT OF AGRICULTURE

FIRST CLASS MAIL

FEDERAL - STATE - PRIVATE

COOPERATIVE SNOW SURVEYS

Furnishes the basic data necessary for forecasting water supply for irrigation, domestic and municipal water supply, hydro-electric power generation, navigation, mining and industry

"The Conservation of Water begins with the Snow Survey"